INDUSTRIAL HOSE

HWASEUNG Corporation

INDUSTRIAL HOSE

SUSTAINABLE VALUE INNOVATION

HEADQUARTERS
1079, Jungang-daero, Yeonje-gu, Busan, Jangcheon B/D, 9F
T. +82-51-717-7300
SEOUL OFFICE
341-17, Gunha-ri, Wolgot-myeon, Gimpo-si, Gyeonggi-do
T. +82-31-981-2093

www.hscorp.com

HWASEUNG Corp

Hwaseung engages the world
Hwaseung creates value

Since its foundation in 1953, Hwaseung has actively responded to the changing world and achieved growth with constant challenges and innovation.
Currently, with a global network that embraces the world with businesses in automotive parts, advanced materials, footwear ODM, chemical and trade networks, Hwaseung is enhancing competencies in overseas business and accelerating growth to become a GLOBAL STANDARD group that enriches the future life for humanity.

HWASEUNG belongs to following department

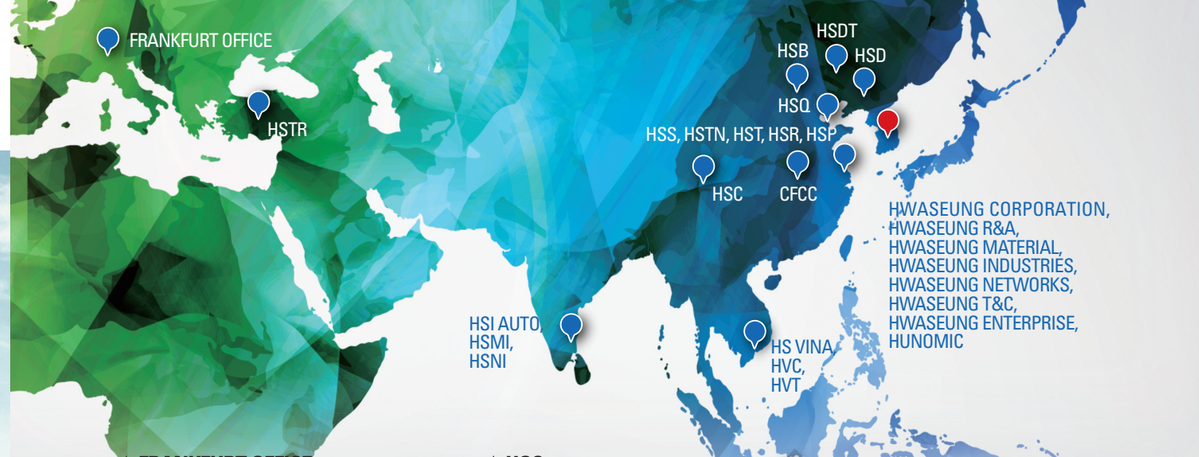
Automotive Parts
With the greatest market share in weatherstrips and hoses in Korea, we are striving to become on of the BIG 3 companies in the global marketplace.

Advnaced Materials
We provide the very best products and technologies that win global recognition as Korea's No.1 rubber materials company.

Footwear ODM
We are shaping the world's best brand with trends that keep us one step ahead of global brands.

Chemical
We are enhancing global competitiveness in the future chemical industry by developing high-value products.

Trade Networks
We are constantly developing new businesses by building a global network with 21st-century strategic business in mind.



FRANKFURT OFFICE
Mergenthaler Allee 79-81, 65760 Eschborn, Germany
Tel. 49-6196-96967-0

HSTR
HWASEUNG TR OTOMOTIV SANAYI VE TIC. LTD. STI
Ovacik Mah. Alsancak Cad. No : 175 Basiskele Kocaeli Turkey
Tel. 90-512-5356-6596 Fax. 90-262-349-3706

HSP
HWASEUNG PHOTOVOLTAIC MATERIAL (TAICANG)CO.,LTD.
#30 Qingdao East RD. Taicang, Jiangsu, China
Tel. 86-512-5358-5708 Fax. 86-512-5358-5728

CFCC
COATWELL FINE CHEMICAL (ANHUI)CO.,LTD.
Cihu National Hi-Tech Industrial Development Zone, Maanshan, Anhui, China 243-000
Tel. 86-555-211-5000 Fax. 86-555-211-5003

HSS
HWASEUNG (SHANGHAI) INT`L TRADE CO.,LTD.
Unit 901-903, New Town No.83 Loushanguan Road, Shanghai, China
Tel. 86-21-6145-3268 Fax. 86-21-6145-3265

HSTN
HWASEUNG HAOTIAN (TAICANG) INTERNATIONAL TRADING CO.,LTD.
#6. Beijing East RD. Taicang, Jiangsu, China
Tel. 86-512-5383-3395 Fax. 86-512-5356-8735

HST
HECHENG VEHICLE PARTS (TAICANG) CO.,LTD.
#86. Beijing East RD. Taicang, Jiangsu, China
Tel. 86-512-5387-2888 Fax. 86-512-5387-2866

HSB
BEIJING HECHENG R&A VEHICLE PARTS CO.,LTD.
19, Pingrui Street Pinggu, Beijing, China
Tel. 86-10-8998-6221 Fax. 86-10-8998-6002

HSC
HWASEUNG VEHICLE PARTS (CHONGQING) CO.,LTD.
#63. Tongliang Industria Zone Road. Chongqing, China

HSR
HWASEUNG SPECIAL RUBBER (TAICANG) CO.,LTD.
#86. Beijing East RD. Taicang, Jiangsu, China
Tel. 86-0512-5387-2844 Fax. 86-0512-5387-2843

HSD
JANGCHUN SHOE MANUFACTURING DALIAN CO.,LTD.
#776 Yingjin Road, Sujia Village, Dalianwan Town, Ganjingzi District, Dalian, China
Tel. 86-411-8767-7620 Fax. 86-411-8767-6845

HSQ
QINGDAO JANGCHUN SHOE MANUFACTURING CO.,LTD.
#211 Dongzhu Jianxi Town Jiaozhou City Qingdao, China
Tel. 86-532-8521-2998 Fax. 86-532-8521-2999

HSDT
JANGCHUN SHOE MANUFACTURING TONGLIAO CO.,LTD.
Tongliao Economic Technological Development Zone Inner Mongolia, China
Tel. 86-475-862-8811 Fax. 86-475-862-8899

HSI AUTO
HSI AUTOMOTIVE PRIVATE LTD.
S. No.73, Mevalur Kuppam, "A" Block,100 Thandalam Post. Sriperumbudur TK, Kanchipuram DT, Tamil Nadu 602 105, India
Tel. 91-44-2681-0001~5 Fax. 91-44-2681-1899

HSMI
HWASEUNG MATERIALS INDIA PRIVATE LTD.
New No.54, Old NO. 100, Mevalur Kuppam Village, Sriperumbudur TK, Kanchipuram DT, Tamil Nadu 602 105, India
Tel. 91-44-2681-0001~5 Fax. 91-44-2681-1899

HSNI
HWASEUNG NETWORKS INDIA PRIVATE LTD.
New No.54, Old NO. 100, Mevalur Kuppam Village, Sriperumbudur TK, Kanchipuram DT, Tamil Nadu 602 105, India
Tel. 91-44-2681-0001~5 Fax. 91-44-2681-1899

HS VINA
HWASEUNG VINA CO.,LTD.
Nhon Trach 1 Industrial Zine Nhon Trach Dist, Dong Nai Province, Vietnam
Tel. 84-61-356-0800 Fax. 84-61-356-0782

HVT
HWASEUNG VUNGTAU CO.,LTD.
844 Binh Gia Street, 10 ward Vung Tau Vietnam
Tel. 84-64-361-0038 Fax. 84-64-361-2289

CC VINA
CHANG CHUN VINA CO.,LTD.
Duong D1 Lo B, Cum Cong Nghiep Tieu Thu Cong Nghiep Xa An Ngai, Huyen Long Dien, Tinh Ba Ria - Vung Tau
Tel. 86-64-367-4710 Fax. 86-64-361-2289

HSPL
HS POLYTECH CO.,LTD.
Duong so2, KCN Nhon Trach 1, Xa Phuoc Thien, Huyen Nhon Trach, Tinh Dong Nai, Viet Nam
Tel. 84-61-3560786 Fax. 84-61-3560782

IBS
INTERNATIONAL B2B SOLUTION
No, 2710, Saigon Trade Center, 37 Ton Duc Thang, Ben Nghe Ward, Dist.1. HCM City
Tel. 84-8-3910-2377 Fax. 84-8-3910-2376

HSL
HS LOGISTICS
Tel. 84-933-566-864

HSG
HS GLOBAL
No, 2701, Saigon Trade Center B/D, 37 Ton Duc Thang, Ben Nghe Ward, Dist.1. HCM City
Tel. 84-8-3910-2377 Fax. 84-8-3910-2376

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Sep. 1978	Established Tong Yang Chemical Co.,Ltd. : Commenced the production of Low Pressure Hose for automotive and industrial
Jan. 1996	Established HWASEUNG MATERIAL Co., Ltd
Dec. 1998	Acquired QS9000 quality certificate
Feb. 2003	Acquired ISO14000 quality certificate
Apr. 2007	Established Hwaseung Corporation Co., Ltd.
Nov. 2008	Established R&D Center in HSMJ(China)
Nov. 2009	Acquired U.S. FDA certificate for Fresh-Water Rubber Lining
Feb. 2011	2011 Acquired "MSHA 2G" certificate
Jan. 2012	Established branch office in U.S.A.
Sep. 2013	Acquired patent for "Cone Type Fender"
Oct. 2014	Extended HSMJ factory in China
Sep. 2016	Established a Hwaseung Corporation R&D Center
Oct. 2017	Established a Hwaseung Corporation Performance R&D Center
Apr. 2018	Established branch office in Indonesia

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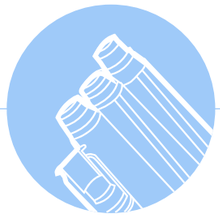
Business Area

Belt

Fabric Rubber C/Belt
Steel Cord Rubber C/Belt
PVC/PU C/Belt



Hose

Industrial Hose
Hydraulic Hose
Welding Hose
PVC Hose

Sheet

Rubber Sheet
TPE Sheet

Fender & Marine System

Rubber Fender
Expansion-Joint
Sleeve Hose
Rubber Seal
Rubber Lining
Railroad pad
Other

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INDUSTRIAL HOSE

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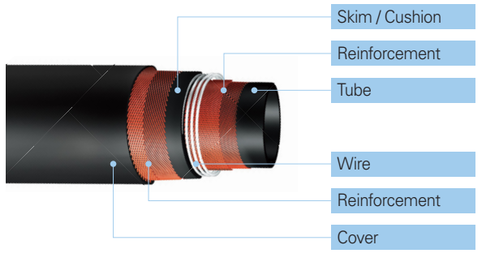
Definition and Structure of Industrial Hose

Definition

Hose is a product that connects a system with a certain role and function and serves primarily to transport fluid suction or discharge. In addition, hoses may be classified with different materials depending on the fluids used and the external environment of use.

Characteristics of Hose

- Excellent flexibility
- Excellent vibration prevention and soundproof
- Excellent thermal shrinkage / expansion absorption
- Extensive range of internal pressure
- Variety of sizes and types



Structure of Hose

Hoses usually consist of Inner tube, Reinforcement and Outer cover, but also have hoses that are formed specifically by Tube and Reinforcement. Depending on the external environment used, protective materials (Protector, Spring, Armor, Guard, Glass Fiber, etc.) may be overlaid onto the outer layer(Cover) of the hose.

■Inner Tube

- Performance : Act as arteries that keep hoses seal and prevent fluid leakage. Inner tubes are designed to withstand the chemical or physical effects of passing fluids.
- Material : Rubber, Resin
- Required properties : Petroleum based oil resistance(NBR, HNBR), Chemical resistance(CSM, XLPE, UHMW), Abrasion resistance(NR, SBR, BR), Prevent gas permeability(IIR), Heat resistance(EPDM, FKM), Cold resistance(ECO, Q), etc.

■Reinforcement

- Performance : It acts as a muscle to strengthen the internal pressure to withstand the pressure of the system given, and the physical performance for the safety of the hose depends on the type of reinforcement and the design of the reinforcement method.
- Material : Generally, reinforcing materials are selected according to the service pressure when designing hoses. Depending on the range of pressure used, reinforcement such as Cotton, polyester, nylon, and Aramid fiber, and fine-Gauge Steel Wire are mainly used, with reinforcement methods such as braids, spiral and knit. In addition, hoses with more than one layer of reinforcement, such as high-pressure hose, may be used to prevent deterioration of durability due to friction between stiffening layers(Cushion) during use.

Definition and Structure of Industrial Hose

■Helix Wire

- Performance : It is used in hoses which are resistant to negative pressure in general use which prevent the hose from being crushed, increase the internal pressure and require flexibility. (e.g suction hose).
- Material: H.S.W. (KS D 3510)

■Cushion : Use it for rigid adhesion between reinforcement layers and the Helix Wire.

■Outer Cover

- Performance : As the outermost structural layer of the hose, it protects the inner rubber and reinforcement layer, and the specifications and manufacturer of the hose are marked. In general, the outer layer should be designed to suit the use environment, such as oil types or other chemicals, climates (including ozone) and extreme temperatures, depending on its application, and may need to add shock resistance and abrasion resistance when the hose comes into contact with external objects.
- Material : Rubber, Resin and Stainless Steel Wire
- Required characteristics : Should be resistant to the use environment and conditions.

a. Abrasion Resistance
b. Impact Resistance
c. Weather Resistance
d. Temperature Resistance
e. Oil & Gas Resistance
f. Chemical Resistance
g. Solvent Resistance

Equipment and Capacity

EQUIPMENT LIST

Equipment		Q'ty	Capa. / Day	Remarks
Preparation	22" L type calendar	1	11,000m	0.6~5.3mm
	Rubber cutting machine	1	-	-
	Reinforcement sheet cutting machine	1	-	-
Forming	Mark-2	4	70Roll	1''~10''
	5Deck	1	52Roll	1''~3''
	Vulcanizing chamber	1	-	ø1,500×65m
	Nylon un-wrapping M/C	2	-	-
	Mandrel extracting M/C	1	-	-
Packing	Coiling M/C	1	-	-
	Packing M/C	1	-	-

[Forming size per M/C]

❶ Mark-2
- 1''~6'' : Max. 60m
- 8'' Suc. : Max. 30m / 8'' Dis. : Max. 60m
- 10'' Dis. : Max. 30m

❷ 5Deck : Max. 40m

Equipment		Q'ty	Capa. / Day	Remarks
Preparation	Flange fit room	1	15Set	-
	Manual forming M/C	2	10Roll	1-1/4''~20''
Forming	Vulcanizing chamber	1	-	ø1,000×22m
	Nylon un-wrapping M/C	1	-	-
	Mandrel extracting M/C	1	-	-
Others	Fitting swaging M/C	1	-	W.B.A 5'' only

[Size per M/C]

❶ Forming Length : Max. 20m
❷ Flange type : Max. 16"
❸ Non-Flange type : Max. 20"

Hose Test Machine List

■Basic properties(KS M 6518)

- Hardness (Point): As a mark of rubber stiffness, the vulcanized rubber is elastic even in small variants, so hardness is expressed as an expression of elasticity.
- Tensile strength (kgf/㎠) : Maximum load per unit area until bristles break.
- Extension rate (%): This refers to the maximum length increased when bristles are broken.
- Modulus (kgf/㎠) : Indicates the strength of the vulcanized rubber at a constant rate of extension.
- Tear (kgf/cm): Indicates the maximum strength of the vulcanized rubber when it is torn.
- Specific gravity (g/㎤) : The mass and rate of reference materials of the same volume as the mass of any substance.

■Interlayer adhesion(KS M 6518)

- Adhesion force (kgf/inch): Indicates strength of adhesion between layers of vulcanized rubber. (Tube + Inner reinforcement layer + Outer reinforcement layer, Outer reinforcement layer + Outer cover)

■Aging test(KS M 6518)

- Put the rubber in an aging test machine and give it a constant temperature and time to check the rate of change.
  ☞ Longitude change (Point), tensile strength change (%), and elongation rate change (%)

■Oil resistance test(KS M 6518)

- Seal the rubber in oil and put it in an aging test machine to check the rate of change by giving a constant temperature and time.
  ☞ Longitude change (Point), tensile strength change (%), elongation rate change (%), volume change (%)

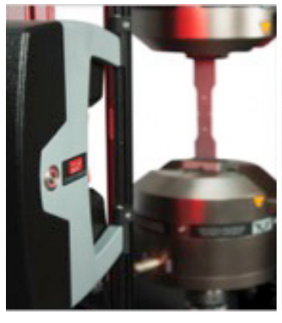
■Ozone test(KS M 6534)

- Place vulcanized rubber in an ozone tester and give a constant ozone and time to check the surface for cracks.

■Abration test(KS M 6534)

- Check for volume loss when worn by rubbing the rubber with a rotating cylinder wrapped in an abrasive cap (sand paper).






Flow Capacity Monograph

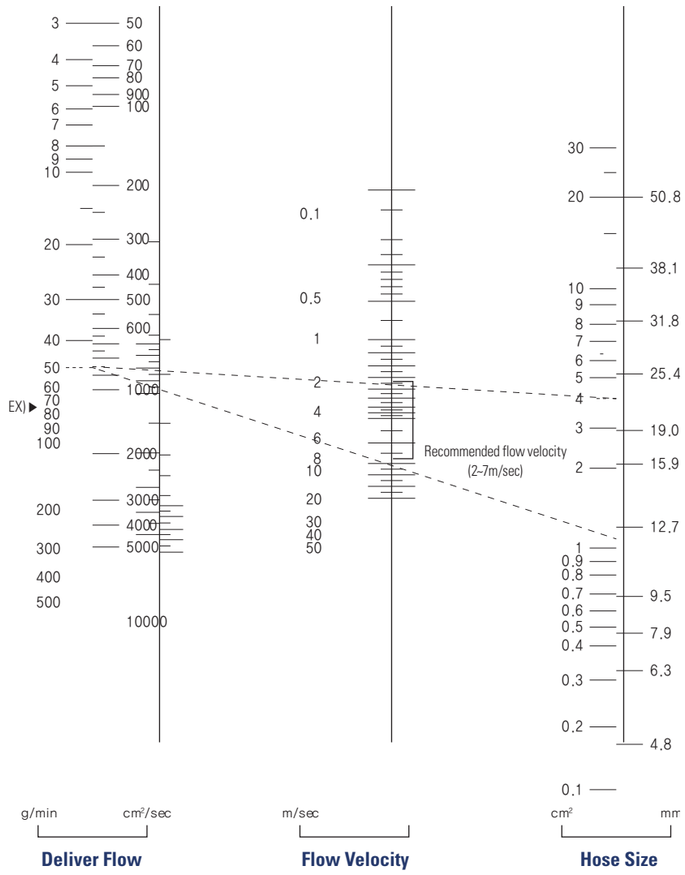
Hose Size Select for Flow and Flow Velocity

To select the correct Hose, use the Calculation Formula and Monograph below.

Calculation Formula

$$D=\sqrt{\frac{Q \times 0.4081}{V}}$$

Q : Flow in Gallons per Minute(gpm)
V : Velocity in Feet per Second(ft/sec)
D : Hose Inner Diameter(inch)



Hose Cross Sectional Area Calculating Formula : Cross Sectional Area = Flow / Flow Velocity

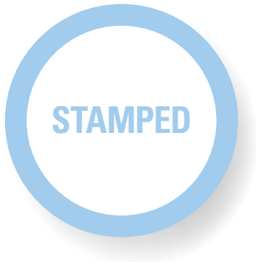
EX

What is the Hose Size if Delivery Flow 50l/min and Flow Velocity 2~7m/sec?

The correct Hose Size is on extension lines from Delivery Flow and Flow Velocity. That means that the Hose Inner Diameter is Ø12.7 ~ Ø19.0mm within the range dotted lines on the above graph.

Method to Select HS Corp Hose

Remember the seven words below to select your hose.



- **S** Size
- **T** Temperature
- **A** Application
- **M** Material to be conveyed
- **P** Pressure
- **E** End of Couplings
- **D** Delivery(Volume and Velocity)

Size

- Hose inner diameter is determined by flow and flow velocity of Fluids.
- If flow velocity is low, the system performance declines, and if flow velocity is high, it causes excessive pressure drop, system damage and leakage of fluids.
- To determine hose inner diameter, refer to the Flow Capacity Monograph.
- To verify hose inner diameter, see the outside marking part.
- If being unable to see the outside marking part, cut the hose and measure hose inner diameter.
- Refer to the below table for hose inner diameter.

	All hoses except for conveyance refrigerant		Hoses for conveyance and refrigerant	
Dash No.	inch	mm	inch	mm
-3	3/16"	4.8	-	-
-4	1/4"	6.4	3/16"	4.8
-5	5/16"	7.9	1/4"	6.4
-6	3/8"	9.5	5/16"	7.9
-8	1/2"	12.7	13/32"	10.3
-10	5/8"	15.9	1/2"	12.7
-12	3/4"	19.1	5/8"	15.9
-14	7/8"	22.2	-	-
-16	1"	25.4	7/8"	22.2

	All hoses except for conveyance refrigerant		Hoses for conveyance and refrigerant	
Dash No.	inch	mm	inch	mm
-20	1-1/4"	31.8	1-1/8"	28.6
-24	1-1/2"	38.1	1-3/8"	34.9
-32	2"	50.8	1-13/16"	46.0
-36	2-1/4"	57.2	-	-
-40	2-1/2"	63.5	2-3/8"	60.3
-48	3"	76.2	-	-
-56	3-1/2"	88.9	-	-
-64	4"	101.6	-	-
-72	4-1/2"	114.3	-	-

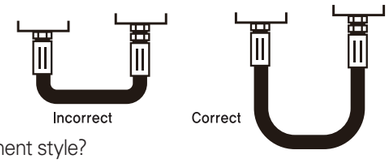
Method to Select HS Corp Hose

Temperature

- There are two types of Temperature affecting Hoses. The Temperature of Fluids and the Ambient Temperature formed on the surface.
- The Temperature of Fluids affects the inner rubber layer of Hose, and the Ambient Temperature affects the surface rubber layer and the reinforcement layer.
- Refer to the range of Workable Temperature marked on the Request Capacity for each Hose.

Application

- Check the below points, and then determine the Assembly Specifications of High Pressure Hoses.
  - a. Where will the hose be used?
  - b. On which equipment will the hose be attached, and how will the environmental factor affect the hose?
  - c. What is the type of the Coupling? What is the size of the Coupling Screw?
  - d. Is the Coupling permanent attachment style? Or is the Coupling site attachment style?
  - e. Does the specific mechanical load occur for the Hose Assembly?
  - f. What is the minimum bending Radius of the attached hose?
    - ※ When considering bending radius of hose assemble, secure 2 times of the straight line to the minimum hose external diameter at the starting point of fitting and bending of the hose.
  - g. Does excessive abrasion on the Hose surface occur by repetitive movement?
  - h. Is there a specific matter on the operation method of Fluids?
- If it is difficult to check above points, order the same specifications as the working one which had be attached before.



Material to be conveyed

- Check the Fluids which is applied to the Hose.
- There is a case to use the special Chemical Liquid besides the general Flow Pressure Hydraulic Oil.
- In this case, use the Liquid produced with the appropriate material having resistance to the Fluids.
  - ※ Check the attached Chemical Resistance Chart in the catalog, and select the correct Liquid.(Hose Inner Side/Hose Outer Side/Couplings/O-rings and etc)

Pressure

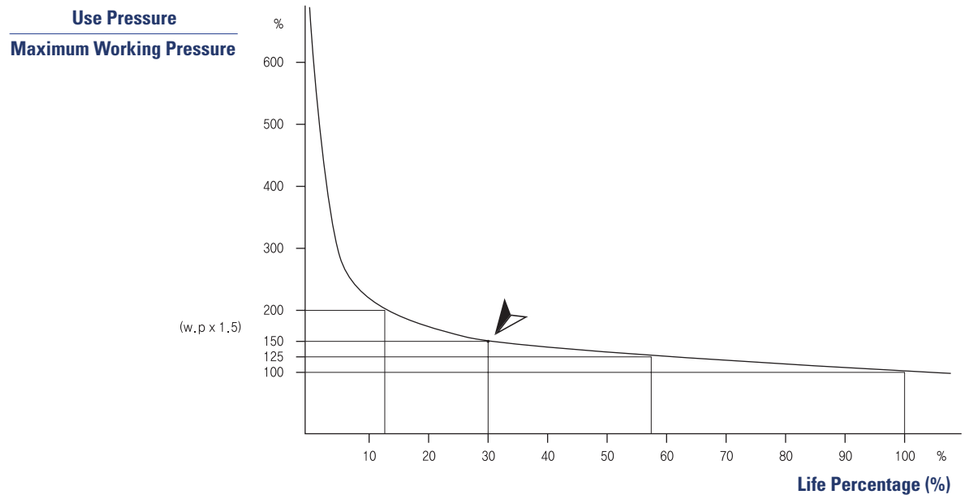
- When selecting the Hoses, the most important thing is to check the System Working Pressure.
- The Maximum Working Pressure must be lower than the Working Pressure marked on the Hoses.
- The higher Working Pressure than the Hose Maximum Working Pressure may shorten the life of Hoses.
- Recommend you must use of appropriate Hoses for Working Pressure.
  - ※ The types of pressure for the Hoses are as below.

Classification	Content
Maximum Working Pressure	■ Maximum usable pressure in System
Proof Pressure	■ As proofing the Hose quality, usually Double of Maxim Working Pressure
Minimum Burst Pressure	■ Minimum Pressure bursting the hose (usually 4 times of Maximum Working Pressure)
Design Burst Pressure	■ Designed Pressure upon reinforcement material and standard

Method to Select HS Corp Hose

Relation of Hose Use Pressure and the life

High Pressure Hoses made with wire for the reinforcement layer have a characteristic Metal Fatigue Limit by Inner Pressure. Maximum Working Pressure guarantees more than 100 % of the regulated life considering Fatigue Limit of Reinforcement Layer, but when using over Maximum Working Pressure, the Hose Inner Pressure drops rapidly. The graph shows the relation of Working Pressure and Life of Hose.



ex) If using the 1.5 times of Maximum Working Pressure, the life of hose will be shortened to 30%.

End of Couplings

- To assemble the Hose into the system, check the specifications of Couplings which are attached at the end of Hose.
- Refer to the catalog about Couplings material, the screw thread, types and assemble types.

Delivery(Volume and Velocity)

- If the existing Hose Size works in system with correct Flow and Flow Velocity, recommend to replace with the same specifications.
- For building or changing to new system, use the Nomo graph and determine the required Hose Size.

Hose Pressure and Unit Conversion Table

SAE HOSE WORKING PRESSURE (psi)

Specification	Hose Style	Description	NOMINAL HOSE INSIDE DIAMETER in INCHES and DASH SIZE														
			3/16 (-3)	1/4 (-4)	5/16 (-5)	3/8 (-6)	1/2 (-8)	5/8 (-10)	3/4 (-12)	1 (-16)	1-1/4 (-20)	1-1/2 (-24)	2 (-32)	2-1/2 (-40)	3 (-48)	3-1/2 (-56)	4 (-64)
SAE J517	100R1	1WIRE BRAID	3000	2750	2500	2250	2000	1500	1250	1000	625	500	375				
SAE J517	100R1 TYPE S	HIGH PRESSURE 1WIRE BRAID	3630	3260	3120	2610	2320	1890	1520	1280	910	730	580				
SAE J517	100R2	2WIRE BRAID	5000	5000	4250	4000	3500	2750	2250	2000	1625	1250	1125	1000			
SAE J517	100R2 TYPE S	HIGH PRESSURE 2WIRE BRAID	6020	5800	5080	4790	3990	3630	3120	2390	1810	1310	1160	1020			
SAE J517	100R3	2FABRIC BRAID	1500	1250	1200	1125	1000	875	750	565	375						
SAE J517	100R4	SUCTION							300	250	200	150	100	62	56	45	35
SAE J517	100R6	1FABRIC BRAID	500	400	400	400	400	350	300								
SAE J517	100R7	THERMOPLASTIC	3000	2750	2500	2250	2000	1500	1250	1000							
SAE J517	100R8	HIGH PRESSURE THERMOPLASTIC	5000	5000		4000	3500	2750	2250	2000							
SAE J517	100R9	4WIRE SPIRAL				4500	4000		3000	3000	2500	2000	2000				
SAE J517	100R10	HIGH PRESSURE 4WIRE SPIRAL	10000	8750		7500	6250		5000	4000	3000	2500	2500				
SAE J517	100R11	HIGH PRESSURE 6WIRE SPIRAL	12500	11250		10000	7500		6250	5000	3500	3000	3000	2500			
SAE J517	100R12	4WIRE SPIRAL				4000	4000	4000	4000	4000	3000	3500	2500				
SAE J517	100R13	5000PSI WIRE SPIRAL							5000	5000	5000	5000	5000				
SAE J517	100R15	6000PSI WIRE SPIRAL				6000	6000		6000	6000	6000	6000					
SAE J517	100R16	COMPACT WIRE BRAID		5000	4250	4000	3500	2750	2250	2000	1625						
SAE J517	100R16 TYPE S	HIGH PRESSURE COMPACT WIRE BRAID	6020	5800	5080	4790	3990	3630	3120	2390	1810						
SAE J517	100R17	3000PSI WIRE BRAID		3000	3000	3000	3000	3000	3000	3000							
SAE J517	100R18	3000PSI THERMOPLASTIC	3000	3000	3000	3000	3000	3000	3000	3000							

SAE HOSE WORKING PRESSURE (psi)

Specification	Hose Style	Description	NOMINAL HOSE INSIDE DIAMETER in INCHES and DASH SIZE															
			1/8 (-3)	3/16 (-4)	1/4 (-5)	5/16 (-6)	3/8 (-7)	13/32 (-8)	1/2 (-10)	5/8 (-12)	3/4 (-14)	7/8 (-16)	1 (-18)	1-1/8 (-20)	1-3/8 (-24)	1-13/16 (-32)	2-3/8 (-40)	3 (-48)
SAE J517	100R5	1WIRE BRAID TEXTILE COVER		3000	3000	2250		2000	1750	1500		800		625	500	350	350	200
SAE J517	100R14	1WIRE BRAID PTFE	1500	1500	1500	1500	1500	1000	800	800	800	800	800	600				

Hose Pressure and Unit Conversion Table

EN HOSE WORKING PRESSURE (psi)

Specification	Hose Style	Description	NOMINAL HOSE INSIDE DIAMETER IN INCHES AND DASH SIZE										
			3/16 (-3)	1/4 (-4)	5/16 (-5)	3/8 (-6)	1/2 (-8)	5/8 (-10)	3/4 (-12)	1 (-16)	1-1/4 (-20)	1-1/2 (-24)	2 (-32)
EN 853	1ST	1WIRE BRAID STANDARD COVER	3630	3265	3120	2610	2320	1890	1525	1280	915	725	580
EN 853	1SN	1WIRE BRAID THIN COVER	3630	3265	3120	2610	2320	1890	1525	1280	915	725	580
EN 853	2ST	2WIRE BRAID STANDARD COVER	6020	5800	5075	4785	3990	3625	3120	2395	1815	1305	1160
EN 853	2SN	2WIRE BRAID THIN COVER	6020	5800	5075	4785	3990	3625	3120	2395	1815	1305	1160
EN 856	4SP	4WIRE SPIRAL		6530		6455	6020	5080	5080	4065	3050	2685	2395
EN 856	4SH	HIGH PRESSURE 4WIRE SPIRAL							6095	5515	4715	4210	3630
EN 857	1SC	COMPACT 1WIRE BRAID		3265	3120	2610	2325	1890	1525	1280			
EN 857	2SC	COMPACT 2WIRE BRAID		5805	5080	4790	3990	3630	3120	2395			

PRESSURE CONVERSION CHART

	psi	mbar	Bar	kPa	MPa	Kgf/cm^2
psi	1	68.95	0.0689	6.895	0.0069	0.070307
mbar	0.0145	1	0.001	0.1	0.0001	1019.716
Bar	14.504	1000	1	100	0.1	1.019716
kPa	0.14504	10	0.01	1	0.001	0.010197
MPa	145.04	10.000	10	1000	1	10.197162
Kgf/cm^2	14223393	980.665	0.980665	98.0665	0.098067	1

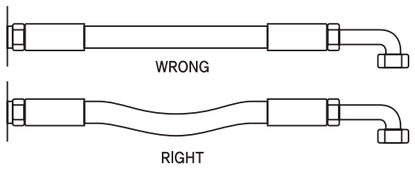
LENGTH CONVERSION CHART

	cm	m	inch	feet	yard	mile
cm	1	0.01	0.393701	0.032808	0.010936	0.000006
m	100	1	39.370079	3.28084	1.093613	0.000621
inch	2.54	0.0254	1	0.083333	0.027778	0.000016
feet	30.48	0.3048	12	1	0.333333	0.000189
yard	91.44	0.9144	36	3	1	0.000568
mile	160934.4	1609.344	63360	5280	1760	1

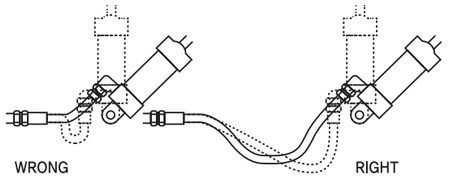
Hose Assembly Routing Tips

Proper hose installation is essential for satisfactory performance. If hose length is excessive, the appearance of the installation will be unsatisfac-tory and unnecessary cost of equipment will be involved. If hose assem-blies are too short to permit adequate flexing and changes in length due to expansion or contraction, hose service life will be reduced.

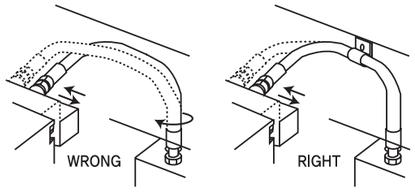
The following diagrams show proper hose installations which provide maximum performance and cost savings. Consider these examples in de-termining length of a specific assembly.



When hose installation is straight, allow enough slack in hose line to pro-vide for length changes which will occur when pressure is applied.

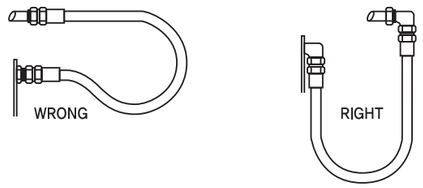


Adequate hose length is necessary to distribute movement on flexing ap-plications and to avoid abrasion.

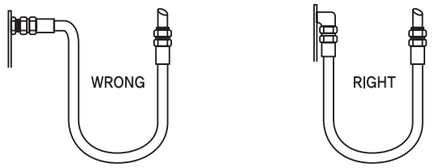


Avoid twisting of hose lines bent in two planes by clamping hose at change of plane.

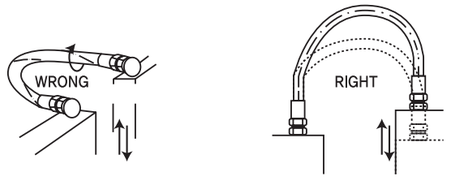
Reduce number of pipe thread joints by using hydraulic adapters instead of pipe fittings.



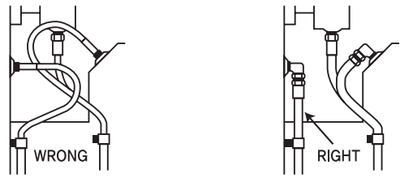
When radius is below the required minimum, use an angle adapter to avoid sharp bends.



Use proper angle adapters to avoid tight bend in hose.

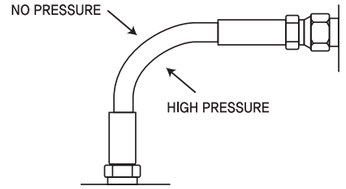


Prevent twisting and distortion by bending hose in same plane as the mo-tion of the port to which hose is connected.

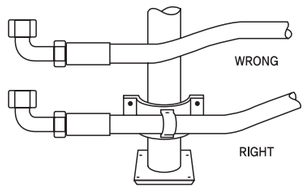


Route hose directly by using 45˚ and/or 90˚ adapter and fittings. Avoid ex-cessive hose length to improve appearance.

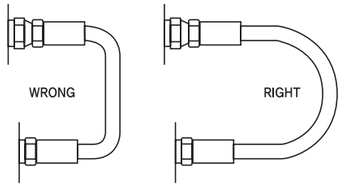
Hose Assembly Routing Tips



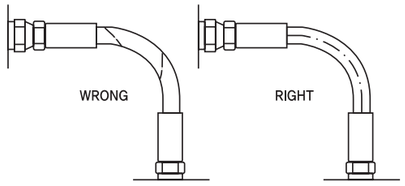
Note : To allow for length changes when hose is pressurized, do not clamp at bends so that curves will absorb changes. Do not clamp high and low pressure lines together.



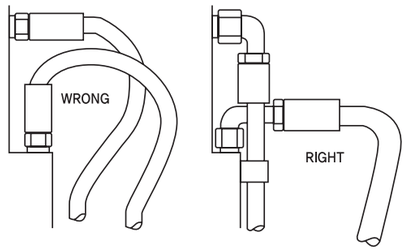
High ambient temperatures shorten hose life, so make sure hose is kept away from hot parts. If this is not possible, insulate hose.



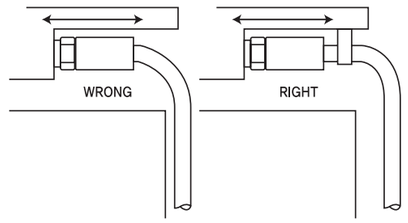
To avoid hose collapse and flow restriction, keep hose bend ra-dius as large as possible. Refer to hose specifica tion tables for minimum bend radius.



When installing hose, make sure it is not twisted. Pressure ap-plied to a twisted hose can result in hose failure or loosening of connections.



Elbows and adapters should be used to relieve strain on the assembly, and to provide neater installations which will be more accessible for in-spection and maintenance.



Run hose in the installation so that it avoids rubbing and abra-sion. Often, clamps are required to support long hose runs or to keep hose away from moving parts. Use clamps of the correct size. A clamp too large allows hose to move inside the clamp and causes abrasion.

Hydraulic Flareless Assembly Procedure (per SAE J514 6.1.3 & 6.1.4)

1. Bottom the tube in the coupling, and tighten the nut until the ferrule just grips the tube. With a little experience, the technician can determine this point by feel. If the couplings are bench assembled, the gripping action can be determined by rotating the tube by hand as the nut is drawn down. When the tube can no longer be turned by hand, the ferrule has started to grip the tube.
2. After the ferrule grips the tube, tighten the nut one full turn. This may vary slightly with different tubing materials, but for general practiec, it is a good rule for the technician to follow.

Chemical Resistance Table

General Chemical Resistance of Hose Compounds

■WARNING The following data is based on tests and believed to be reliable; however, the tabulation should be used as a guide ONLY, since it does not take into consideration all variables, such as elevated temperatures, fluid contamination, concentration, etc. that may be encountered in actual use. All critical applications should be tested. Contact Hwaseung Corporation for recommendation and assistance.

■NOTE All data based on 70°F unless otherwise noted.

Common Name	ASTM Designation D1418-64	Composition	General Properties
Buna-N or Nitrile	NBR	Nitrile - Butadiene	Excellent oil resistance. good physical properties.
Cross Linked Polyethylene	XLPE	Cross Linked Polyethylene	Excellent resistance to most solvents, oils and chemicals. Do not confuse with chemical properties of standard polyethylene.
EPT or EPDM	EPDM	Ethylene - Propylene - diene - terpolymer	Good general purpose polymer. Excellent heat, ozone, and weather resistance. Not oil resistant.
Flourocarbon resin(Teflon)	TFE	Polytetra - Flouroethylene	Excellent chemical and solvent resistance, inert to most materials. Smooth anti-adhesive surface-easily cleaned.
GRS or SBR	SBR	Styrene - Butadiene	Good physical properties, including abrasion resistance. Not oil resistant.
Hypalon	CSM	Chloro - sulfonated Polyethylene	Excellent ozone, weathering and acid resistance. good abrasion and heat resistance. Can be compounded for good oil resistance.
Natural	NR	Isoprene Rubber(Natural)	Excellent physical properties, including abrasion resistance. Not oil resistant.
Neoprene	CR	Chloroprene	Excellent weathering resistance. Flame retarding. Good oil resistance. Good physical properties.
Chlorinated Polyethylene	SM	Chloro - Polyethylene	Good long term resistance to UV and weathering. Good oil and chemical resistance. Excellent flame resistance. Good low temperature impact resistance.
Viton	FPM	Fluorocarbon Rubber	Excellent high temperature resistance, particularly in air or oil. Very good chemical resistance.
Epichlorohydrin	ECO	Ethylene Oxide Chloromethyl	Excellent oil and ozone resistance. Fair flame resistance and low permeability to gases. good low temperature properties.
Butyl	IIR	Isobutene - Isoprene	Very good weathering resistance, low permeability to air. Good physical properties. Poor resistance to petroleum based fluids.
Ultra - High Molecular Weight Polyethylene	UHMW	Ultra - High Molecular Weight Polyethylene	Excellent chemical resistance.

Chemical Resistance Table

The table below is based on reliable information. Care should be taken to use this data as a guide only, and to take into account such variables as temperature, concentration and fluid contamination. All ratings are given at room temperature, unless stated otherwise. For High temperature application, contact Hwaseung Corporation.

WARNING! Never use brass couplings with any ammonia based fluids.

Trade Name	Description	ASTM Codes	Parker Codes
Butyl CPE EPDM	Isobutylene-Isoprene chlorinated Polyethylene Ethylene Propylene-Diene	IIR CM EPDM	BU CP EP
Hypalon Hytrel	Chlorosultony! Polyethylene Thermoplastic Polyester	CSM -	CS HY
Natural Neoprene Nitrile	Natural Rubber Polychloropren Acrylonitrile	NR CR NBR	NR CR NI

Trade Name	Description	ASTM Codes	Parker Codes
Nylon SBR Santoprene	Isobutylene-Isoprene chlorinated Polyethylene Ethylene Propylene-Diene	- SBR EPDM	NL SB SP
Teflon UHMW Urethane	Fluorocarbon Resin Ultra-High Molecular Weight Polyethylene	TFE - AU	TF UHMW AU
Viton XLPE	Floroelastomer Cross-Linked Polyethylene	FKM XPE	VI XP

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
1 UNDECANOL	E			E		E		E				E			G	E
1,4-DIOXANE	G		G	X		X	X	X	E	X		E		X	X	E
1-AMINO-2-PROPANOL	E			C		G		G				E			X	
1-AMINOBUTANE	X		C	C		X	X	C		X		E		X	X	
1-AMINOPENTANE	G		X	G		G	X	C				E			X	
1-BROMO-2 METHYLPROPANE	X			X		X	X	X				E			G	
1-BROMO-3 METHYL BUTANE	X		X	X		X	X	X				E			G	
1-BRUMOBUTANE	X			X		X		X				E			G	
1-CHLORO-2-METHYL PROPANE	X		X	X		X		X				E			G	
1-CHLORO-3-METHYL BUTANE	C			X		X	X	X	E			E			E	
1-DECANOL	C			E		C	X	E				E			G	E
1-HENDACONAL		E														
2 (2AMINOETHYLAMINO) ETHANOL	E			G		G		G								
2 (2ETHOXYETHOXY) ETHANOL	E		G	G		C	C	G	E	G		E		X	G	
2 (ETHOXYETHOXY) ETHYL ACETATE	G		X	G		X	X	C		X		E		X	G	
2,4-DI-SEC-PENTYLPHENOL		E														
2-AMINOETHANOL	E		G	G		G	G	G				E		C	X	
2-CHLORO-1-HYDROXY-BENZENE		C														
2-CHLOROPHENOL	G	G	X	C	X	X	X	X	X	X	X	E		X	E	G
2-CHLOROPROPANE	X		X	X		X	X	X	X	X		E		X	E	E
2-ETHOXYETHANOL	G		G	C		C	C	G		X		E		X	C	
2-ETHOXYETHYL ACETATE	G	X	G	X	X	X	X	X	G	X		E		X	X	
2-ETHYL (BUTYRALDEHYDE)	G			X		X		X				E			X	E
2-ETHYL-1-HEXANOL	E		E	E		E	E	E		E	E	E		X	E	E
2-ETHYLHEXANOIC ACID	C			G		C		C				E				
2-ETHYLHEXYL ACETATE	E					X		X				E			X	
2-OCTANONE	G					X		X				E			X	
3-BROMOPROPENE	X					X	X	X				E			G	
3-CHLORO-2-METHYL PROPANE		G														
3-CHLOROPROPENE	C		X	X		X	X	G		E		E			G	
4-HYDROXY-4-METHYL-2-PENTANONE	E		E	C	C	C	C	X	G	C		E		X	X	
ACETALDEHYDE	E		E	C	G		X	X	E	X		E	G	X		E
ACETIC ACID, GLACIAL	G	E	G	E	E	X	X	G	X	C	E	E	E	X	X	E
ACETIC ACID-10%	E	E	E	X	X	B	B	X	E	F	G	E	E	X	E	E
ACETIC ACID-50%	E	E	E	C	C	X	C	C	C	X	B	G	E	X	G	G
ACETIC ANHYDRIDE	G	E	G	E	C	C	G	X	X	X	G	E	G	X	X	E
ACETIC OXIDE	G		B	E		X					B	E		G	X	E
ACETONE	E	G	E	X	C	C	X	X	E	C	E	E	E	X	X	E
ACETONE CYANOHYDRIN	E			C		C	B	X			E	E	G	X	X	E
ACETONITRILE	E		E	G		B	E	C			E	E				

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
ACETOPHENONE	G		E	X		X	X	X		X	E	F	X	X	X	X
ACETYL ACETONE	E	G	E	X		X	X	X		X	E	E	E	X	X	E
ACETYL CHLORIDE	X	E	C		X		X	X	X	X	C	E	G	X	G	G
ACETYL OXIDE	E		G	X		C		X			G	E	E		X	E
ACETYLENE	E	G	E	C	G	G	E	E	E	C	E	E	E	G	E	E
ACETYLENE DICHLORIDE	C		C	X		X	X	X				E			G	
ACETYLENE TETRACHLORIDE	X		X	X		X	X	X				E			E	
ACROLEIN	E		E	G		G	C	C		C		E	X	X		E
ACRYLIC ACID		E														
ACRYLONITRILE	X	E	X	C		C			E	C		E	C	X		C
ADIPIC ACID			E			E	E	E				E		E	E	
AIR, +300F	G		G	G		X	G	G		X	E		X	C		
ALK-TRI	X			X		X		X				E			E	E
ALLYL ALCOHOL	E		E	E		E	E	E				E	E		G	E
ALLYL BROMIDE	X			X		X						E	G		G	G
ALLYL CHLORIDE		G		X		X		G		G		E	G		G	G
ALUM	E	E	E	E		E	E	E	G			E	E		E	E
ALUMINUM ACETATE (AQ)	G	E	E			E	G	G		X		E	E	X	X	E
ALUMINUM CHLORIDE (AQ)-40%	G	C				E	E	G	X				E			E
ALUMINUM FLUORIDE	E		E	E		E	E	E	G	E		E	E	C	E	E
ALUMINUM FORMATE	G			X		X						E	E		E	
ALUMINUM HYDROXIDE	E		E	G		E	E	E	G	G		E	E	G		
ALUMINUM NITRATE (AQ)	E	E	E	E		E	E	E		E		E	E	C	E	E
ALUMINUM SULFATE (AQ)	E	E	E	E	G	E	E	E	E	G	E	E	E	G	E	E
ALUMS-NH3-CR-K	E		E	E		E	E	E	C	E		E	E	G		E
AMINES-MIXED	G		G	X	G	G		X		G				X	X	
AMINO XYLENE	G		C												C	
AMINOBENZENE		G							C							
AMINODIMETHYLBENZENE	G	C										E				
AMINOETHANE	G		E	C		C	X	X		C		E		X	X	
AMMONIUM CARBONATE (AQ)	E		E	G		E	E	G	G	E		E		E	E	
AMMONIUM CHLORIDE (AQ)	E	G	E	G	E	E	E	G		E	E	E	E	G	E	E
AMMONIUM HYDROXIDE	E	E	E	E								E	E	X	E	E
AMMONIUM NITRATE (AQ)	E	G	E	E	G	E	E	E	G	E		E	E	E	E	E
AMMONIUM PHOSPHATE, DIBASIC	E	E	E	E		E	E	E	E	E		E	E		E	E
AMMONIUM SULPHATE (AQ)	E	E	E	E	G	E	E	E	G	G		E	E	E	E	E
AMMONIUM SULPHITE	E		E	E		E	E	E		E		E			E	E
AMMONIUM THIOSULPHATE	E		E	E		E	E	E				E			E	E
AMYL ACETATE	G		E	X	C	X	X	X	G	X	X	E	E	X		E
AMYL ACETONE	G			X		X						E			X	E
AMYL ALCOHOL	E	E	E	E	E	E	E	G	E	E	E	E	E	X	E	E
AMYL AMINE	G			C		C		C				E				
AMYL BROMIDE												E			G	
AMYL CHLORIDE	X	C	X	X		X	X		E	X		E	E	C	E	G
AMYL ETHER				C				C				E				
ANETHOL	X	X		X		X			G			E	G		G	G
ANILINE	E	G	G	X	X	X	X	X	C	X		E	E	X	C	E
ANILINE DYES	G		G	G		G	C	X	X	G		E	E	X	C	E
ANILINE OIL	G	G	C									E		X	C	
ANIMAL FATS	C		E	C	G		G	E	E	X	E	E	E	C	E	E
ANTIMONY CHLORIDES	E		E	G			X	G				E			E	E
AQUA REGIA	X		G	X		X	X	X		X		E	X	X	E	X
ARGON	G		E	X	E	X	X	E	E	X		E	E	E	E	E
ARSENIC ACID	E	E	E	E		G	E	E	G	E		G	E	C	E	E
ASPHALT	X		X	X	C	X	X	X	E	X	E	E	X	G	E	X
ASTM FUEL A	X	E	X	G	E	X	G	E	E	X	X	E	G	G	E	G
ASTM FUEL B	X	G	X	X	E	X	X	X	E	X	X	E	G	G	E	G
ASTM FUEL C	X	C	X	X	E	X	X		E	X	X	E	G			G
ASTM OIL NO. 2	X	E	X	X	E	X	G	E	E	X	X	E	E	G	E	E
ASTM OIL NO. 3	X		X	G	E	X	C	E	E	X	X	E	E	E	E	E
ASTM OIL NO. 4	X		X	X		X	X	G		X			E	X	E	E
ASTM OIL NO. 1	X	E	X	G	E	X	E	E	E	X	X	E	E	E	E	E
AUTOMATIC TRANSMISSION FLUID	X		X	C	E	X	G	E	G	X	X	E	E	G	E	E
BANANA OIL			G	C				X		X		E	E			E
BARIUM CHLORIDE (AQ)	E	G	E	E	G	E	E	E	G	E		E	E	E	E	E
BARIUM HYDROXIDE (AQ)	E	G	E	E	G	E	E	E	G	E		E	E	E	E	E
BARIUM SULFIDE (AQ)	E		E	E		E	E	E		G		E	E	E	E	E
BEER	E		E	E		E	G	E		E		E	E		E	E
BEET SUGAR LIQUORS	E	G	E	E	G	E	G	E	E	E		E	E	X	E	E
BENZAL CHLORIDE	G											E	E			E

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
BENZALDEHYDE	G		E	X	G	X	X	X	E	X	X	E	E	X	X	E
BENZENE	X	C	X	X	C	X	X	X	G	X	X	E	G	X	G	E
BENZENE CARBOXYLIC ACID	E			X			E	X				E			E	
BENZINE	X		X	X		X	C	C	G	X		E		C	E	E
BENZOIC ACID	X					X	E	X	E	X		E	E		E	E
BENZOL		C	X		C			X	G			E	G		G	
BENZOTRICHLORIDE												E	G			G
BENZYL ACETATE	E			G		X						E	E		X	E
BENZYL ALCOHOL	G		G	G	C	X	X	X	C	X	X	E	E	X	E	E
BENZYL CHLORIDE	X	X	X	X		X	X	X		X		E	E		E	E
BENZYL ETHER	G		C	X		X	X	X		X		E		G	X	
BIS (2-CLOROETHYL) ETHER	X			X		X		X		X		E				
BLACK SULFATE LIQUOR	G	C	G	G	G	G	G	G	C	G		E	E	X	E	
BLEACH (2-15%)	G		E	E	G	X	X	X	C	X		E	E	X	E	G
BORAX SOLUTION	E	G	E	E	E	G	E	G	G	G		E	E	E	E	E
BORIC ACID	E		E	E	E	E	E	E	G	E	E	E	E	E	E	E
BRAKE FLUID (HD-557) 12 DAYS	G	E	E	G			G	C	E	E		E			X	
BRINE	E	G	E	E	G	E	G	E	G			E	E		E	E
BROMACIL			E													
BROMOBENZENE	X	X	X	X		X	X	X		X		E	C	X	E	C
BROMOCHLOROMETHANE	X	X	G	X		X	X	X				E			C	
BROMOETHANE	X		X	X		C	X	G		X		E		X	E	
BROMOTOLUENE	X	X		X		X				X		E			G	F
BUGDIOXANE																E
BUNKER OIL	X		X	X		X	X	E		X		E	E	G	E	E
BUTADIENE	X		X	X		X	X	X		X		E	E	X	G	E
BUTANE	X		X	X	E	X	C	E	E	X		E	E	X	E	E
BUTANOIC ACID			G	C								E			G	
BUTANOL (BUTYL ALCOHOL)	G	G	G	E	G	E	E	E	G	E	G	E	E	X	E	E
BUTANONE	E	G	E	X	E			X	G		X	G	E	X		E
BUTOXYETHANOL	E		E	X		X	X	C				E		E		
BUTYL ACETATE	X	C	X	X	C	X	X	X	G	X		X	E	X	X	E
BUTYL ACRYLATE	X		X	X		X	X	X			E	E	G		X	G
BUTYL ALCOHOL	G	G	G	E	G	E	E	E	G	E		E	E		E	E
BUTYL ALDEHYDE	G		G	C			C					E	E	C	X	E
BUTYL BENZYL PHTHALATE	E			X		X				X		E	E		C	E
BUTYL CARBITOL	E		E	X		X	C	X		X		E	E		C	C
BUTYL CELLOSOLVE	E		G	X		X	X	C		X		E	E		X	E
BUTYL CHLORIDE	C			X		X						E	C		E	G
BUTYL ETHER	X		X	X		X	X	X		X		E	E	G	X	E
BUTYL ETHER ACETALDEHYDE	G			X		X			X			E	E		X	E
BUTYL ETHYL ETHER	X			X		X		G				E	E			E
BUTYL OLEATE	G		G	X		X	X	X		X		E			E	
BUTYL PHTHALATE	G		E	X		X				X		E			C	E
BUTYL STEARATE	X		X	X		X	X	G		X		E	E	G	E	E
BUTYLENE	X		X	X	G	X	C	E	G	X		E		C	E	
BUTYRALDEHYDE	G		C			X	X	X		X			E	X	X	E
BUTYRIC ACID	G		G	C		X	X	X		X		E	E		G	
BUTYRICANHYDRIDE	C			G		C		C				E				E
CADMIUM ACETATE	E			E		X						E	E			E
CALCUIM ACETATE	E			C		E	G	G		X		E	E	X	X	E
CALCIUM ALUMINATE	E			E		E		E				E			E	E
CALCIUM BICHROMATE	E			C								E				G
CALCIUM BISULFIDE			X		G		C	E	G	G		E		C	E	
CALCIUM CHLORIDE	E	G	E	E	E	E	E	E	E	E		E	E	E	E	E
CALCIUM HYDROXIDE	E	G	E	G	E	E	E	E	E	E		E	E	E	E	E
CALCIUM HYPOCHLORITE	E	G	E	E	C	X	C	X	X	X		E	C	X	E	C
CALCIUM NITRATE	E		E	E		E	E	E	E	E		E	E	X	E	E
CALCIUM SULFIDE	E	X	E	E		X	E	E	E	X		E	E	E	E	E
CAPRILIC ACID	C			G		C		C				E	E			E
CARBAMIDE	G			E		E	G	G				E				
CARBITOL	E		G	G		X	C	G	E	G		E	E	X	G	E
CARBOLIC ACID (PHENOL)	G	G	X	X		X	X	X	X	X	X	E	E	X	E	E
CARBON DIOXIDE	G		G	G		G	G	E	E	G		E	E	E	G	E
CARBON DISULFIDE	X		X	X		X	X	X	X	X		E	E	X	X	C
CARBON MONOXIDE	E	G	E	E	E	C	E	E	E	G	E	E	E	G	E	E
CARBON TETRACHLORIDE	X	C	X	X	X	X	X	C	X	X	X	E	G	X	E	E
CARBONIC ACID	E	X	E	E	X	E	G	G	G	G	X	E		E	G	E
CASTOR OIL	G	G	G	E	C	E	E	E	G	E	C	E	E	G	E	E
CAUSTIC SODA (SEE SODIUM HYDROXIDE)	E		E		C		E		G		E	E			G	

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
CELLOSOLVE ACETATE	G		G	X		X	X	X	G	X		E	E	X	X	E
CELLUGUARD	E		E	X		E	E	E	G	E		E		E	E	
CETYLIC ACID	G	G	G	C	E	E	G	E	C	B	E	E		E	E	
CHINA WOOD OIL (TUNG OIL)	X	C	X	E	G	X	E	E	G	X		E		C	E	
CHLORDANE	X		X	C	C	X	C	G	G	X				C	E	
CHLORINATED SOLVENTS	X	X	X	X		X	X	X	X	X		E		X	E	G
CHLORO-2-PROPANONE	X		E	X		X	C	X		X		E		X	X	
CHLOROACETIC ACID	G		G	G	X	X	X	X	X	X	X	E	E	X	G	E
CHLOROACETONE	X		E	X		X	C	X		X		E	E	X	X	E
CHLOROBENZENE, MONO, DI, TRI	X		X	X	X	X	X	X	E	X	X	E	G	X	E	A
CHLOROBUTANE	C			X		X		X				E	G	C	E	G
CHLOROETHYLBENZENE	X	X	X	X		X				X		E	E	G	E	E
CHLOROFORM	X	X	X	X	X	X	X	X	X	X	X	E	E	X	G	G
CHLOROPENTANE	C			X		X				X		E	E		E	E
CHLOROSULFONIC ACID	X	X	X	X	X	X	X	X	X	X	X	E	X	X	X	X
CHLOROTOLUENE	X		X	X		X	X	X		X		E	G	X	E	G
CHLOROX	G		G	G		X	G	G		X		E	G	X	E	G
CHROME PLATING SOLUTIONS	X		X	X		X	X	X		X		E		X	E	
CHROMIC ACID	G	X	X	X	X	X	X	X	X	X	X	E		X	E	
CHROMIUM TRIOXIDE	G	X	X	X	X	X	X	X	X	X	X	E		X	E	
CINNAMENE	X		X	X	X	X	X	X		X		E		C	G	
CIS-9-OCTADECENOIC ACID	X	X	C	G	E	X	C	E	E	X		E		G	E	E
CITRIC ACID	E	X	E	E	G	E	E	E	G	E	E	E	E	E	C	E
COAL OIL	X		X	C		X	G	E	E		X	E	E	C	E	E
COAL TAR	X		X	X	X	X	C	G		X	X	E	E	C	E	E
COAL TAR NAPHTHA	X		X	X		X		X		X		E		X	E	E
COCONUT OIL	G		G	C		X	C	E		X		E	E	C	E	E
COKE OVEN GAS	X		X	X		X	X	X	E	X		C		X	E	E
COOLANOL (MONSANTO)	X		X	G	X	X	G	E		X				X	E	
COPPER CHLORIDE	E	X	E	G	E	G	G	E	C	E		E	E	G	E	E
COPPER CYANIDE	E		E	G		E	E	E	G	E		E	E	E	E	E
COPPER HYDRATE	E			G		C		G				E	E		C	
COPPER HYDROXIDE	E			G		C		G		G		E			C	E
COPPER SULFATE	E	X	E	E	E	G	E	E	G	G		E	E	G	E	E
CORN OIL	G		X	G	E	X	C	E	G	X	E	E	E	E	E	E
COTTONSEED OIL	C	G	C	G	E	X	C	G	E	X		E	E	E	E	E
CREOSOTE	X		X	X		X	X	G	X	X		E	E	C	E	E
CRESOLS	X		X	X	X	X	X	X	X	X	X	E	E	X	E	E
CRESYLIC ACID	X		X	X		X	X	X		X		E	E	X	G	E
CROTONALDEHYDE	E		E	X		X	X	X		C		E	E	X	X	E
CRUDE OIL			X				X	G	E	X		E	E	G	E	E
CUMENE	X		X	X		X	X	X		X		E	E	X	E	E
CUPRIC CARBONATE	E			E		C	E	E				E	E		E	E
CUPRIC HYDROXIDE	E			G		C		G				E			C	
CUPRIC NITRATE	E		E	E		G	E	E				E	E		E	E
CUPRIC SULFATE	E		E	E		G	E	E		E		E	E	X	E	E
CUTTING OIL	X		X	G		X	G	E		X		E		E	E	
CYCLOHEXANE	X		X	X	E	X	X	G	G	X	X	E	E	G	E	G
CYCLOHEXANOL	X		X	B		X	G	G	G	X	X	E	E		E	E
CYCLOHEXANONE	X		C	X		X	X	X	G	X	X	E	E	X	X	E
CYCLOPENTANE	X		X	X		X	E	G				E	E		E	E
CYCLOPENTANOL	X			X		X		G		X			E		G	E
CYCLOPENTANONE	X			X		X		X				E			X	E
CYCLOPENTYLALCOHOL	X			X		X		G		X			E		G	E
DDT IN DEIONIZED KEROSENE	X		X	X		X	C	E	E	X		E		G	E	E
DECAHYDRONAPTHALENE	X		X	X		X	X	X	G	X	X	E		X	E	
DECAHYDROXYNAPTHALENE		C														
DECALIN	X		X			X	X	X	G	X	X	E	X	X	E	E
DECYL ALCOHOL	X			E		X	X	E				E	E		G	E
DECYL ALDEHYDE	C			X		X						E	E		X	E
DECYL BUTYL PHTHALATE	E			X		X		X				E	E		C	E
DECYL CARBINOL	E			E		E		E				E			G	
"DETERGENT, WATER SOLUTION"	E		E		G		G	E		G		E	E	G	E	
DEVELOPING FLUID (PHOTO)	G		G	E	X	E	E	E		G		E			E	
DEXTRON	X		X	X		X	G	E		X				G	E	
DI(2ETHYLHEXYL) ADIPATE	E		G	X		X	X	X				E			C	
DI(2ETHYLHEXYL) PHTHALATE	G		G	X	E	X	X	X	E	X		E		X	G	
DIACETONE ALCOHOL	E		E	X	C	X	X	X		X		E	E	X	X	C
DIACETYLMETHANE	E	G	E	X		X	X	X		X	E	E		X	X	
DIALLYLPHTHALATE		G														

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
DIAMMONIUM PHOSPHATE	E	E	E	E		E	E	E		E		E			E	
DIAMYL NAPTHALENE	E			X		X						E			C	E
DIAMYLPHENOL	X			X		X		X		X		E			E	E
DIAMYLAMINE	E		E	C		G		G		X		E		X	X	
DIAMYLENE	X			X		X	X	C	G			E			E	E
DIBENZYL ETHER	G		C	X		X	X	X		X		E	E	G	X	E
DIBROMOBENZENE	X			X		X						E	G		E	E
DIBROMOMETHANE	X		C	X		X	X	X			X	E			G	
DIBUTYL ETHER	X		X	X		X	X	X		X		E	E	X	X	E
DIBUTYL PHTHALATE	C		E	X	G	X	X	X	E	X		E	E	X	C	E
DIBUTYL SEBACATE	G		G	X	G	X	X	X		X		E	E	X	E	E
DIBUTYLAMINE	X		X	X		X	X	X		X		E	E	X	X	
DICALCIUM PHOSPHATE	E			E		E		E				E			E	E
DICHLORO DIFLUORO METHANE	X	C	C	E	E	X	G	C	G	E	X	E		E	G	
DICHLORO ETHYLENE	C		X	X	X		X		C		X	E		C	G	
DICHLOROACETIC ACID	C			X		G						E	E	C	X	E
DICHLOROBUTANE	X		C	X		X	X	G		X		E	E	X	E	G
DICHLOROETHANE	C	X	X	X	X	X	X	X	C	X	X	E		X	G	E
DICHLOROETHYL ETHER	X			X		X		X		X		E				E
DICHLOROHEXANE	X			X		X						E	E		E	E
DICHLOROMETHANE	X		C	X	X	X	G	X	C	X	X	E	E		G	E
DICHLOROPENTANE	X			X		X	X	X		X		E	E	X	E	E
DICHLOROPROPANE	X			X		X	X	X				E	E		E	E
DICHLOROPROPENE												E	E		E	E
DICHLOROTOLUENE		X														
DIESEL OIL	X	E	X	C	G	X	C	E	E	X	X	E	E	C	E	C
DIETHANOLAMINE	E		E	C	X	G			G	X		E	E			
DIETHYL ETHER	X		X	X	C	X	X	X	E	X	E	E		E	X	
DIETHYL KETONE	G		E	X		X	X					E			X	E
DIETHYL OXALATE	X		X	X		X	X	X				E				E
DIETHYL PHTHALATE	E			X		X						E	E		C	E
DIETHYL SEBACATE	G		G	C	E	X	X	X		X	E	E		X	G	
DIETHYL SULFATE	G		E	X		X	E	X		E		E		X	X	
DIETHYL TRIAMINE	E			C		G		G				E				
DIETHYLAMINE	G		G	C		G	G	C		G		E	E	C	X	C
DIETHYLBENZENE	X		X	X		X	X	X		X		E	E	X	E	E
DIETHYLENE GLYCOL	E		E	E	E	E	E	E		E		E	E	X	E	C
DIETHYLENE OXIDE	X		E									E				
DIETHYLENE TRIAMINE	E		E	C		G				X	E	E	E	X	E	
DIHYDROXY DIETHYL ETHER	E		E	E		E	E	E				E				
DIHYDROXY SUCCINIC ACID	G		G	E		E	C	G				E		E	E	
DIISOBUTYL KETONE	G		E	X		X	X	X		X		E	E	X	X	E
DIISOBUTYLENE	X		X	X		X	C	E		X		E		X	E	E
DIISODECTYL PHTHALATE	E		E	X		X				X		E	E		C	E
DIISODECYL PHTHALATE	E		E	X		X	X	X				E			C	
DIISOOCTYL ADIPATE	E			X		X		X		X		E	E		C	E
DIISOOCTYL PHTHALATE	E		G	X		X						E	E		C	E
DIISOPROPANOLAMINE	E			C		G		G				E				
DIISOPROPYL ETHER	X		X	C		X	X	G		X		E		G	X	E
DIISOPROPYL KETONE	E		E	X		X	X	X		X		E		X	X	E
DIMETHYL PHTHALATE	G		G	X	E	X	X	X		X	G	E	E	X	E	E
DIMETHYL SULFATE	G			X				X				E	E		X	
DIMETHYL SULFIDE	C					X		X				E				
DIMETHYLAMINE	G		X	X			X	X				E	E		X	E
DIMETHYLANILINE	X	C	G	X			X	X		X		E	G	X	X	G
DIMETHYLBENZENE	X	C	X	X	X		X	X	G	X	X	X	E	X	E	
DIMETHYLBUTANE		G														
DIMETHYLCARBINOL	E		G	E		E	E	G				E	E		E	
DIMETHYLKETONE	E	G	E	X	C		X	X	E	C	E	E	E	X	X	
DIOCTYL ADIPATE	E		G	X		X	X	X				E	E		C	
DIOCTYL PHTHALATE	G		G	X	E	X	X	X	E	X		E	E	X	G	E
DIOXALANES	X		G	X		X	X	X		X		E	E	X	X	E
DIOXANE	G		G	X		X	X	X	E	X		E	E	X	X	E
DIPENTENE	X		X	X		X	X	G		X		E		X	E	
DIPENTYLAMINE	E		E	C		G		G		X		E		X	X	
DI-P-MENTHA-1,8-DIENE	X		X	X		X	X	G		X		E		X	E	
DIPROPYLAMINE	E			C		G		G				E				
DIPROPYLENE GLYCOL	E			E		E		E				E			E	
DISODIUM PHOSPHATE	E		E	E		E		E				E	E	E	E	E
DIVINYL BENZENE	X			X		X				X		E	E		E	E

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
DOWELL INHIBITOR		G														
DOWFAX 2A1 SOLVENT		E														
DOWFAX 2A1 TA		E														
DOWFAX 6A1 SOLVENT		G														
DOWFAX 6A1 TA		E														
"DOWTHERM, A AND E"	X	X	X	X	G	X	X	X	X	X		C	E	X	E	E
DRY CLEANING FLUIDS	X		X	X			X	C		X		E		X	E	
DUCGKIRIOEBAANE	X															
DURO AW16.31			X					E	E			E				
DURO FR-HD			X					E	E			E				
ETHYL BUTYL ACETATE	E			G		X		X				E	E		X	E
EHTYL DICHLORIDE	C		C	X		X	X	X		X		E		X	G	G
EHTYLENE DIBROMIDE	X		C	X		X	X	X		X		E	G	X	G	G
ETHANOIC ACID	G	E	E	C	C	X	G	C	C	G	C	E		X	X	
ETHANOL(GRAIN ALCOHOL)	E	G	E	E	E	E	E	E	X	E	E	E	E	X	C	E
ETHANOLAMINE	G		G	X		G	G	G		X		E	E	C	X	E
ETHERS	X	G	C	X	X	X	X	X	E	X		E		X	X	
ETHYL ACETATE	G	G	E	X	C	X	X	X	E	X	E	E	E	X	X	C
ETHYL ACETOACETATE	G		G	X		C	X	X		C		E	E		X	E
ETHYLACETONE	G		G	X		X	X	X		X		E			X	
ETHYL ACRYLATE	G		G	X		X	X	X		X		E	E	X	X	G
ETHYL ALCOHOL	E	G	E	E	E	E	E	E	X	E	E	E	E	X	E	E
ETHYL ALDEHYDE	G		E	C		X	X	X				E	E	C	X	E
ETHYL ALUMINUM DICHLORIDE	X			X		X		X				E			G	G
ETHYL BENZENE	X		X	X		X	X	X		X		E	E	X	E	E
ETHYL BROMIDE	X		X	X		C	X	G		X		E		X	E	
ETHYL BUTANOL	E			E		E		E				E	E		G	E
ETHYL BUTYL KETONE	G			X		X		X				E			X	E
ETHYL CELLULOSE	G		G	G	G	G	G	G	C	G		E	E	G	X	E
ETHYL CHLORIDE	E	X	E	C	X	C	X	E	E	G	X	E	G	C	E	G
ETHYL DIISOBUTYLTHIO-CARBAMATE						E				E			E			E
ETHYL ETHER	X	G	X	X		X	X	X	E	X		E	E	C	X	E
ETHYL FORMATE	G		G	G		X	G	X		X		E	E		E	E
ETHYL IODIDE	C		C	X		X	X	X				E	G		G	E
ETHYL OXALATE	X		C	X		C	X	X		X		E	E	E	E	E
ETHYL PHTHALATE	E			X		X		X				E	E			
ETHYL SILICATE	E		E	G		G	E	E		G		E	E	X	E	E
ETHYLAMINE	G		E	C		C	X	X		C		E	E	X	X	
ETHYLENE CHLOROHYDRIN	G		G	C		C	G	X				E	E		E	E
ETHYLENE DIAMINE	E		E	G		G	E	G		G		E	E	X	X	E
ETHYLENE DICHLORIDE.	C	X	X	C	X	X	X	X	C	X	X	E	G	X	G	G
ETHYLENE G MONOETHYL E ACETATE	E		E	X		C	X	C				E		X	E	
ETHYLENE G. MONOBUTYL ETHER	E		E	C		X	C	C		X		E		X	X	E
ETHYLENE G. MONOHEXYL ETHER																E
ETHYLENE G. MONOMETHYL ETHER	E		G	G		X	E	C				E			X	E
ETHYLENE GLYCOL	E	G	E	E	E	E	E	E	E	E	E	E	E	G	E	C
ETHYLENE OXIDE	X	X	C	X	E	X	X	X	G	X		E		X	X	
FATTY ACIDS	X		X	C	G	X	G	E	E	X	X	E	E	C	E	E
FERRIC BROMIDE	E			E		E		E				E	E		E	
FERRIC CHLORIDE	E	X	E	E	G	E	E	E	C	E		E	E	E	E	E
FERRIC NITRATE	E		E	E		E	E	E	E	E		E	E	E	E	E
FERRIC SULFATE	E	X	E	E	E	E	E	E	E	E		E	E	G	E	E
FERROUS ACETATE	E			E		X		X				E			X	E
FERROUS CHLORIDE	G		E	G	E	E	G	E	E			E	E	G	E	E
FERROUS SULFATE	E		E	E	E	E	E	E	E	E		E	E	E	E	
FLOUROSILIC ACID	E		E	E		E	E	E		G	C	E	C		C	G
FLUOBORIC ACID	G		E	E		E	E	E		E		E	C	X	E	C
FLUORINE	X		E	X	X	X	X	X	X			G	X	X	E	X
FORMALDEHYDE	E	G	E	G	C		G	C	E	C	E	E	E	X	E	E
FORMALIN	E	G	E	G	C		G	C	E	C	E	E		X	E	E
FORMIC ACID	E	X	E	E	C	C	E	C	X	E	E	E	E	X	X	C
FREON 113	X		X	E	E	X	E	E	X	G	X	E		G	G	
FREON 12	C	C	C	E	E	C	E	E	G	E	X	E		E	G	
FREON 22	X	C	E	E	X	C	E	X	G	E	X	E		X	C	
FREON 502	E		E			E	E	G	E	E					G	
FUEL A (ASTM)	X	E	X	G	E	X	G	E	E	X	X	E	G	G	E	G
FUEL B (ASTM)	X	G	X	X	E	X	X	X	E	X	X	E	G	G	E	G
FUEL OIL	X	E	X	C	G	X	G	E	G	X		E	E	C	E	E
FURALDEHYDE	E	E	G	C	G	X	C	X	C	X	E	E		X	X	
FURAN	X		X	X		X	X	X		X		E		X	C	

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
FURFURAL	E	E	G	C	G	X	C	X	C	X	E	E	E	X	X	E
FURFURAN	X		X	X		X	X	X		X		E		X	C	
FURFURYL ALCOHOL	G		G	X	G	X	X	X	G	X	E	E	E	X	C	E
GALLIC ACID	G		G	G	X	E	G	G	G	G		E	E	X	E	C
GALLOTANNIC ACID	G		E	E		E	E	E				E		E	E	
GAS, 100 OCTANE	X		X	X	E	X	C	E	G	X	X	E	C	C	E	
GAS, COAL			E		G		E	X	E					G	E	
GASOLINE	X	E	X	X	E	X	X	E	G	X		E	G	C	G	G
GLACIAL ACRYLIC ACID																E
GLUCONIC ACID	C			G		X		C				E	E			
GLUCOSE	E		E	E	G	E	G	E	G	E		E	E	C	E	E
GLYCERINE	E	E	E	E	E	E	E	E	G	E	X	E	A	C	E	C
GLYCEROL	E	E	E	E	E	E	E	E	G	E	X	E		C	E	
GLYCOGENIC ACID	C			G		X		C				E				
GLYCOLS	E		E	E	C	E	E	E	G	E	G	E	E	X	E	E
GLYCONIC ACID	C			G		X		C				E	E			
GLYCYLALCOHOL	E	E	E	E	E	E	E	E	G	E	X	E		C	E	
GREASE, PETROLEUM BASE	X	E	X	X	E	X	C	E	E	X	X	E	E	E	E	G
GREEN SULFATE LIQUOR	E		E	G	X	G	G	G	X	G		E	E	E	E	E
HALON 1211							E	E								
HELIUM	E		E	E		E	E	E	E	E		E		E	E	
HEPTALDEHYDE	X			X		X		E				E			X	
HEPTANAL	X			X		X		E				E	E		X	E
HEPTANE	X	E	X	G	G	X	G	E	E	X		E	E	G	E	G
HEPTANE CARBOXYLIC ACID	C			G		X		C				E				
HEPTANOIC ACID		E														
HEPTANONE		C														
HEXADECANOIC ACID	G	G	G	C	E	E	G	E	C	B	E	E		E	E	
HEXALDEHYDE	G		E	C		X	E	X		X		E	E	G	X	E
HEXANE	X		X	E	E	X	E	E	E	X	E	E	G	G	E	G
HEXANOL	C		G	G		E	G	E		E		E	E	X	E	E
HEXENE	X		X	G		X	G	G		X		E		G	E	E
HEXYL ALCOHOL	C		G	G		E	G	G		E		E	E	X	G	E
HEXYL METHYL KETONE	G			X		X		X				E			X	E
HEXYLAMINE	G			C		C		C				E			X	
HEXYLENE GLYCOL	E		C	E		E	E	E				E			E	
HISTOWAX		E														
HYDRAULIC OIL, PETROLEUM		E	X	G	E	X	G	E	E		X	E	E		E	E
HYDRAZINE	E		E	G	X	X	G	G	X	G		E			E	
HYDROBROMIC ACID	E	X	E	E		E	X	X	X	X		E	G	X	E	C
HYDROCHLORIC ACID	E	X	C	C	C	C	C	C	C	X	E	E	E	C	G	E
HYDROCYANIC ACID	G	X	E	E	X	G	G	G	X	G	E	E	E	X	E	
HYDROFLUORIC ACID	G	X	C	E	X	C	C	C	X	C	X	E	E	X	G	C
HYDROFLUOSILICIC ACID	E	X	E	E	G	E	G	G	X	G		E	G	C	E	C
HYDROGEN CHLORIDE ANHYDROUS		E														
HYDROGEN DIOXIDE (10%)	C		G	G		G	X	C				E			E	
HYDROGEN GAS	E	C	E	E	E	G	E	E	E	G		E	E	E	E	E
HYDROGEN PEROXIDE 10%	G		G	E	X	G	X	C	G	C		E	G	G	E	G
HYDROGEN PEROXIDE OVER 10%	X	X	C	G	X	X	X	X	X	X		E	E	C	E	C
HYDROGEN SULFIDE (WET)	E	X	E	E	E	X	E	C	X	X		E	E	C	C	E
HYDROXY BENZENE	G		C	C		X	X	X				E		C	E	
HYDROXYISOBUTYRONITRILE		E														
HYDROXYTOLUENE		E														
HYVAR XL			E													
IMINODI-2-PROPANOL		E														
IMINODIETHANOL		E														
IODINE	G		G	G		X	X	G	E	G		E	G	X	E	C
IODINE PENTAFLUORIDE	X		X	X		X	X	X		X		E	C	X	X	C
IODOFORM			X			X	X	E		X						
ISOBUTANAL		G														
ISOBUTYLAMINE	E			C		C		X				E			X	
ISOBUTYLBROMIDE	X			X		X		X				E			G	
ISOBUTYLCARBINOL	E		E	E		E	E	E				E		C	E	
ISOCYANATES					G			G	G				E	G	G	E
ISOOCTANE	X	E	X	G	E	X	G	E	E	X	X	E	E	G	E	E
ISOPROPYL ACETATE	G		G	X	C	X	X	X	G	X		E	E	X	X	E
ISOPROPYL ALCOHOL	E		E	E	E	E	G	E	E	E		E	E	X	E	E
ISOPROPYL ETHER	X		X	C		X	X	G		X		E	E	G	X	E
JET FUELS	X		X	X		X	X	E	C	X	X	E	E	C	E	E
JP-4 OIL	X		X	X	E	X	X	E	C	X	X	E		C	E	

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
KEROSENE	X	G	X	X	E	X	C	E	E	X	X	E	E	G	E	E
KETONES	G	G	E	C	X	C	X	X	E	G	X	E	E	X	X	
LACQUER SOLVENTS	X	C	X	X	C	X	X	X	E	X		E	G	X	X	G
LACTIC ACID-COLD	E	X	E	E	X	E	E	E	E	E		E	E	G	E	E
LACTIC ACID-HOT			X	C	C	X	X	X	X	X		E			E	
LARD	C		G	G	G	X	G	E	E	X	E	E	G	C	E	C
LAVENDER OIL	X		X	X		X	X	G		X		E	G	X	E	G
LEAD ACETATE	E		E	C		E	G	G		X		E	E	C	E	E
LEAD NITRATE	E		E	C		E	E	E		E		E			E	
LEAD SULFATE	E		E	E	G	E	G	E	G			E	E		E	E
LIME	E		E	E	G	E	E	E	G			E		G	E	
LIME BLEACH	E		E	G		E	G	E		E		E			E	
LIME SULFUR, WET	E		C	G		C	E	E				E	E		E	E
LIMONENE	X		X	X		X	X	X				E			E	
LINOLEIC ACID	X		X	X		X	C	G		X		E			G	
LINSEED OIL	G	G	C	G	G	X	E	E	E	X		E	E	G	E	E
LUBRICATING OILS, SAE	X	G	X	X	E	X	C	E	E	X	X	E	E	E	E	E
LYE SOLUTIONS	E	C	E	E	C	E	E	C	G	G	C	E		G	G	
MEX	G	C	E	X	C	X	X	X	E	X	X	E	E	X	X	E
MAGNESIUM ACETATE	E		E	E		X	X	X		X		E		X	X	E
MAGNESIUM CHLORIDE	E	G	E	E	G	E	E	E	E	E		E	E	E	E	E
MAGNESIUM HYDRATE	E		E	E		E	G	G				E	E	E	G	
MAGNESIUM HYDROXIDE	E	G	E	E	C	E	E	E	E	G		E	E	C	E	E
MAGNESIUM SULFATE	E	G	E	E	G	G	E	E	E	G		E	E	C	E	E
MAGNESIUM SULFITE	E		E	E		G	E	E		G					E	
MALEIC ACID	X		E	X		X	X	C		X		E	E	C	E	G
MALEIC ANHYDRIDE	X		X	X		X	X	X		X		E			E	
MALIC ACID	X		X	G		E	G	E	E	G		E	E		E	
MANGANESE SULFATE	G		E	E		G	E	E				E	E	E	E	E
MAPP			G				E	E		G						
MERCURY	E	G	E	E	E	E	E	E	E	E		E	E	E	E	E
MERCURY VAPORS	E		E	E		C	C	E		E		E			E	
MESITYL OXIDE	C		G	X		X	X	X		X		E	E	X	X	E
METHALLYL ALCOHOL	E			E		E		E				E			G	E
METHALLYL CHLORIDE		C														
METHANE CARBOXYLIC ACID																
METHANOIC ACID	E	X	E	E	C	C	E	C	X	E	E	E		X	X	
METHANOL (METHYL ALCOHOL)	E	G	E	E	E	E	E	E	G	E	E	E	E	X	C	C
METHANOL (WOOD ALCOHOL)	E	G	E	E	E	E	E	E	G	E	E	E	E	X	C	C
METHOXY ETHANOL		E														
METHOXYETHOXY ETHANOL		E														
METHYL 1-2,4-PENTANEDIOL		E														
METHYL ACETATE	G		G	C	C	X	C	X	E	X		E	E	X	X	E
METHYL ACETOACETATE	G		G	X		X	X	X				E		X	X	E
METHYL ACETONE	G		E	X		C	X	X				E	E		X	
METHYL ACETYLENE PROPADIENE			G				E	E		G						
METHYL ALCOHOL	E	G	E	E	E	E	E	E	G	E	E	E	E	X	C	E
METHYL ALLYL ALCOHOL	E			E		E		E				E			G	
METHYL ALLYL CHLORIDE	F	C		X		X				X					F	G
METHYL AMYL CARBINOL	E			E		E		E				E			G	E
METHYL BENZENE	X	C	X	X	C	X	X	X	E	X	X	E		X	E	E
METHYL BROMIDE	C		C	X	X	X	X	G	G	X	X	E	G	X	E	G
METHYL BUTANE	X		X	X			X	E				E		G	E	
METHYL BUTANOL	E	E	E	E	E	E	E	E	E	G	E	E		X	E	
METHYL BUTYL KETONE	E		E	X		X	X	X		X		E	E	X	X	
METHYL CARBITOL	E			E		X		C				E				E
METHYL CELLOSOLVE	G		G	C		X	G	C		X		E	E	X	X	E
METHYL CHLORIDE	X	C	X	X	X	X	X	X	C	X	X	E	E	X	E	G
METHYL CYANIDE	E		E	G		G	E	C				E			X	
METHYL ETHYL KETONE	E	G	E	X	E	X	X	X	G	X	C	E	E	X	X	E
METHYL HEXANOL	E			E		E		E				E	E		G	E
METHYL ISOAMYL KETONE		C														
METHYL METHACRYLATE	C		X	X		X	X	X	C	X	C	E	G	X	X	G
METHYL NORMAL AMYL KETONE	G			X		X		X				E			X	E
METHYL PROPYL ETHER	X			G		X		X				E				E
METHYL SALICYLATE	G		C			X	X	X				E			G	
METHYL STYRENE		C														
METHYL SULFIDE	C			X		X		X				E				
METHYL TERTIARY BUTYL ETHER	G	X					X	X		X		G	G		X	
METHYL-1-PROPANOL	E		E	E		E	E	G		E		E		X	E	

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
METHYL-2-BUTANOL	E	E		E		E				E					F	E
METHYL-2-BUTANONE	G	X	C	X	X	X	X	X	E	X		E		X	X	E
METHYL-2-HEXANONE	G	C		X		X				X					X	E
METHYL-2-PENTANOL	E		E	E		G	E	G				E			C	
METHYL-2-PENTANONE	C	X	G	X	X	X	X	X	G	X	X	E		X	X	
METHYL-2-PROPEN-1-OL	E		E	E		G	E	G				E			C	
METHYL-3-PENTEN-1-ONE		C														
METHYL-4-ISOPROPYL BENZENE		C														
METHYLALLYL ACETATE	E			G		X		X				E			X	E
METHYLAMYL ALCOHOL	E		E	E		G	E	G				E			C	E
METHYLCYCLOHEXANE	X			X		X		X				E			G	G
METHYLENE BROMIDE	X		X	X		X	X	X				E	G		C	
METHYLENE CHLORIDE	X		C	X	X	X	X	X	C	X	X	E	E	X	G	C
METHYLETHYL KETONE	E	G	E	X	E	X	X	X	G	X	C	E	E	X	X	E
METHYLHEXYL KETONE	G			X		X		X				E			X	E
METHYLISOBUTYL CARBINOL	E		E	E		G	E	G				E			C	C
METHYLISOBUTYL KETONE	C	X	G	X	X	X	X	X	G	X	X	E	E	X	X	E
METHYLISOPROPYL KETONE	G	X	C	X	X	X	X	X	E	X		E		X	X	E
METHYLLACTONITRILE	E			C		C	B	X			E	E		X	X	
METHYLPHENOL	X		X	C		X	X	X				E		X	E	
METHYLPROPYL CARBINOL	E			E		E		E				E			G	
METHYLPROPYL KETONE	G		G	X		X	X	X		X		E			X	E
MIL-A-6091	E		E	E		E	E	G		E				X	E	
MIL-E-9500	E		E	E		E	E	E		E				X	E	
MIL-F-16884	X		X	C		X	C	E		X				C	E	
MIL-F-17111	X		X	X		X	G	E		X				C	E	
MIL-F-25558B	X		X	G		X	G	E		X				G	E	
MIL-F-25576C	X		X	C		X	C	E		X				C	E	
MIL-F-7024A	X		X	X		X	X	E		X				G	E	
MIL-G-10924B	X		X	G		X	X	E		X				G	E	
MIL-G-25013D	X		X	G		X	G	E		X				C	E	
MIL-G-25537A	X		X	G		X	G	E		X				G	E	
MIL-G-4343B	C		C	G		C	G	G		C				E	E	
MIL-G-5572	X		X	X		X	X	E		X				G	E	
MIL-G-7711A	X		X	X		X	X	E		X				E	E	
MIL-H-13910B	G		E	G		G	G	G		E				X	E	
MIL-H-19457B	E		E	X		X	X	X		X				X	C	
MIL-H-22251	E		E	G			G	G		G					E	
MIL-H-27601A	X		X	C		X	G	G		X				C	E	
MIL-H-5606B	X		C	G		X	G	E		X				G	E	
MIL-H-6083C	X		X	G		C	G	E		X				G	E	
MIL-H-8446B	X		X	C		X	G	G		X				C	E	
MIL-J-5161F	X		X	X		X	X	G		X				C	E	
MIL-J-5624G(JP-3, JP-4, JP-5)	X		X	X		X	X	E		X				C	E	
MIL-L-15016	X		X	G		X	G	E		X				E	E	
MIL-L-17331D	X		X	G		X	G	E		X				E	E	
MIL-L-2104B	X		X	C		X	G	E		X				E	E	
MIL-L-21260	X		X	G		X	G	E		X				E	E	
MIL-L-23699A	X		X	G		X	G	G		X				C	E	
MIL-L-25681C	E		E	G		G	G	G		G				C	E	
MIL-L-3150A	X		X	G		X	G	E		X				G	E	
MIL-L-3545B	X		X	C		C	G	G		X				C	E	
MIL-L-4339C	X		X	X		X	X	E		X				X	E	
MIL-L-6082C	X		X	G		X	G	E		X				E	E	
MIL-L-6085A	X		X	X		X	X	G		X				C	E	
MIL-L-7870A	X		X	X		X	G	E		X				X	E	
MIL-L-9000F	X		X	C		X	G	E		X				C	E	
MIL-L-9236B	X		X	X		X	X	G		X				X	E	
MIL-O-5606								E							E	
MIL-O-7808	X		X	X		X	X	G		X		E		X	E	
MIL-P-27402	E		E	G			G	G		G						
MIL-S-3136B TYPE 1 FUEL	X		X	G		X	G	E		X				G	E	
MIL-S-3136B TYPE 2 FUEL	X		X	X		X	X	C		X				G	E	
MIL-S-3136B TYPE 3 FUEL	X		X	X		X	X	C		X				G	E	
MIL-S-3136B TYPE 4 OIL, LOWSWELL	X		X	E		X	E	E		X				E	E	
MIL-S-3136B TYPE 5 OIL, MEDSWELL	X		X	G		X	G	E		X				G	E	
MIL-S-3136B TYPE 6 OIL, HI SWELL	X		X	X		X	X	E		X				G	E	
MIL-S-81087	E	G	E	E		E	E	E		E				E	E	
MINERAL OIL	X		X	E	E	X	E	E	E	X	X	E	E	E	E	E
MINERAL SPIRITS	X		X	G		X	X	E		X		E	E	G	E	E

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
MOBILE HFA			X					E	E			E				
MOLTEN SULFUR	G		E	E		G	E	G				E	X	G	E	X
MONOBUTYL ETHER	X		X	X		X	C	C		X		E		X	X	E
MONO-CHLOROACETIC ACID	G	X	C	X	X	C	E	X	X	X	X	E		X	G	E
MONOCHLOROBENZENE	X		X	X	C	X	X	X	G	X	X	E	G	X	E	G
MONOCHLORODIFLUOROMETHANE	X	C	E	E	X	C	E	X		E	X	E			X	C
MONOETHANOL AMINE	G		G	C		G	G	G		G		E	E	X	X	E
MONOETHYLAMINE	G		E	C		C	X	X		C		E		X	X	C
MONOMETHYLAMINE	C		E	C		C	C	G				E			C	E
MORPHOLINE			X				X	X	X			E				
MOTOR OIL			X	G	G		G	E	G			E	E	G	E	E
MTBE	G	X					X	X		X		G	G		X	
MURIATIC ACID	C	X	C	C	C	C	C	C	X	X	E	E	E	C	C	E
NA-K			X					X				X				
NAPHTHA	X	E	X	X	E	X	X	E	E	G	X	E	E	C	E	E
NAPHTHALENE	X	C	X	X	C	X	X	X	G	X	C	E	E	G	E	E
NAPTHENIC ACIDS		E	X	X		X	X	G		X		E			E	
N-BUTANAL	G		G	C		X	C	X				E		C	X	
N-BUTYLAMINE	X		C	X		X	X	X		X		E		X	X	
N-BUTYLBENZENE				X		X		X				E			E	E
N-BUTYLBROMIDE	X			X		X		X				E			G	G
N-BUTYLBUTYRATE	E		E	X		X	X	X		X		E			E	G
N-BUTYLCARBINOL	E	E	E	E	E	E	E	G	E	E	E	E		X	E	
NEOHEXANE	X			X		X		E				E			E	E
NEON GAS	E		E	E		E	E	E	E	E	E	E		E	E	
NEU-TRI	X			X		X		X				E			E	E
NICKEL ACETATE	E		E	X		E	G	G		X		E	E	X	X	E
NICKEL CHLORIDE	E	X	E	E	C	E	G	E	C	E		E	E	C	E	E
NICKEL NITRATE	E		E	E		E	E	E				E	E		E	E
NICKEL SULFATE	E	X	E	E	C	G	E	E	C	G		E	E	C	E	E
NIETYLENE						E										
NITRIC ACID, 10%	E	X	E	G	C	X	G	X	C	X	E	E	E	X	X	C
NITRIC ACID, 13N	X	X	X	X	X	X	X	X	X	X		E		X		
NITRIC ACID, 13N+5%	X	X	X	X	X	X	X	X	X	X		E		X		
NITRIC ACID, UP TO 25%	G	X	E	G	X	X	X	X	X	X		E	E	X	C	E
NITRIC ACID, 25% TO 40%	C	X	G	C	X	X	X	X	X	X		E	G	X	C	G
NITRIC ACID, 40% -60%	X	X	X	X	X	X	X	X	X	X		E	C	X	C	C
NITRIC ACID, CONC (16N)	X	X	X	X	X	X	X	X	X	X	X	E	E	X	E	G
NITRIC ACID, RED FUMING	C	X	X	X	X	X	X	X	X	X	X	E	X	X	C	X
NITRILOTRIETHANOL	G		E	E	X	G	X	C		G		E		X	X	
NITROBENZENE	G	C	X	X	X	X	X	X	C	X		E	E	X	C	E
NITROETHANE	G		G	C		G	C	X		G	E	E	E	X	X	E
NITROGEN	E		E	E		E	E	E		E		E	E	E	E	E
NITROMETHANE	G		G	C	C	G	X	X		C		E	E	X	X	E
NITROUS OXIDE GAS	E		E	E		E	G	E	C			E	E	G	E	
N-NONYL ALCOHOL	E			E		E		E				E			G	
N-OCTANE	X		X	X		X	C	E		X		E	G	X	E	G
NONANOIC ACID	E			X		X		E				E				
NONANOL	E			E		E		E				E			G	
N-SERV(75% XYLENE)									E			E			E	C
NUTO H			X					E	E			E				
NYVAC LIGHT			E					X	E			E				
O-AMINOTOLUENE		G														
OCTANOIC ACID	C			G		C		C				E				
OCTANOL	G		E	G		G	G	G		G		E	E	X	E	E
OCTYL ACETATE	E			E		X		X				E	E		X	
OCTYL ALCOHOL	G		G	G		G	G	G		G		E	E	X	G	E
OCTYL ALDEHYDE	C			X		X		X				E			X	E
OCTYL AMINE	E			C		C		C				E			X	C
OCTYL CARBINOL	E			E		E		E				E			G	E
OCTYLENE GLYCOL	E			E		E		E				E			E	C
OIL-PETROLEUM	X	G	X	G	E	X	G	E	G	X	C	E	E	G	E	E
OLEIC ACID	X	X	C	G	E	X	C	E	E	X		E	E	G	E	E
OLEUM (FUMING SULFURIC ACID)	X	X	X	X	X	X	X	X	X	X		E	X	X	G	X
OLIVE OIL	G		G	G		X	G	E	E	X		E	G	E	E	C
ORTHO-DICHLOROBENZENE	X		X	X	X	X	X	X	E	X	X	E		X	E	
ORTHO-DICHLOROBENZOL	X		X	X	X	X	X	X	E	X	X	E		X	E	G
ORTHOXYLENE	X	C	C	X	C	X	X	X	G	X	X	E		X	E	E
OXALIC ACID	E	X	E	E	X	C	G	G	G	G	E	E	E	C	E	C
OXYDIETHANOL		E														

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
OZONE	G		E	E	C	X	C	X	C	X		E	C	E	E	C
PAINT THINNER	X		X	X		X	X	X	G	X		E	E	X	G	E
PALMITIC ACID	G	G	G	C	E	E	G	E	C	B	E	E	E	E	E	G
PAPERMAKERS ALUM	E			E		E	E	E				E	G		E	
PARA METHOXYPROPENYL BENZENE	X	X		X		X			G			E			G	
PARA-DICHLOROBENZENE	X		X	X		X	X	X		X		E		X	E	G
PARAFFIN WAX	X		X	X		X	G	E		E			E	G	E	X
PARALDEHYDE	E		E	X		C	C	C				E			X	E
PARAXYLENE	X		X	X		X	X	C				E		C	E	E
PCB												E			E	
P-CYMENE	X	X	X	X		X	X	X		X		E	E	X	E	E
PELARGONIC ALCOHOL	E			E		E		E				E			G	E
PENTACHLOROETHANE	X			X		X	X	X				E			E	E
PENTADIONE		G														
PENTAMETHYLENE	X		X	X		X	E	G				E			E	
PENTANE	X		X	C	G	X	C	E	G	X		E	G	C	E	G
PENTANOL	E		E	E		E	E	E				E		C	G	
PENTANONE	G		G	X		X	X	X				E			X	E
PENTASOL	E		E	E		E	E	G		G		E		X	G	E
PENTY LACETAT	G		E	X	C	X	X	X	G	X	X	E		X		
PENTYLALCOHOL	E	E	E	E	E	E	E	G	E	E	E	E		X	E	
PENTYL BROMIDE												E			G	
PENTYL CHLORIDE	X	C	X	X		X	X		E	X		E		C	E	G
PENTYL ETHER				C				C				E				
PENTYLAMINE	G		X	C		C	X	C				E			X	
PERCHLORIC ACID-2N	G		G	G	X	X	G	X	X	X	X	E		X	E	E
PERCHLOROETHYLENE	X	C	X	X	X	X	X	C	C	X	X	E	G	X	E	G
PERCHLOROMETHANE	X					X	X	X				E				
PETROLEUM CRUDE	X		X	G	C	X	G	E	G	X		E	E	E	E	E
PETROLEUM ETHER	X		X	X		X	C	E	E	X		E		G	E	E
PETROLEUM OILS	X	G	X	G	E	X	G	E	G	X	C	E	E	G	E	E
PHENBO													E	X		
PHENOL	G			X	X	X	X	X	X	X	X	E	E	X	E	E
PHENOLSULFONIC ACID	C			X		X		X				E	G	G	X	G
PHENYLAMINE	E		G	X		X	X	X				E		C	E	
PHENYLBROMIDE	X		X	X		X	X	X				E		X	G	
PHENYLBUTANE		C														
PHENYLCHLORIDE	X		X	X		X	X	X				E		X	E	E
PHENYLETHYLENE	X		X	X	X	X	X	X		X		E		C	G	
PHENYLMETHANE	X		X	X		X	X	X				E		X	E	
PHENYLMETHANOL	G		G	G	C	X	X	X	C	X	X	E	E	X	E	E
PHENYLMETHYL ACETATE	E			G		X						E	E		X	E
PHOSPAHTE ESTERS	E	G	E	X	C	X	X	X	E	X	E	E		X	C	
PHOSPHORIC ACID 10%	G	X	E	E			E	E	E	G	E	E	E	E	E	E
PHOSPHORIC ACID 10% -85%	G	X	E	E	X	G	E	X	C	G		E	E	C	E	E
PHOSPHORUS TRICHLORIDE ACID	E		E	X		X	X	X		X		E			E	
PICRIC ACID, H2O SOLUTION	C	X	C	E	X	C	C	C	X	G	X	C		G	E	
PINE OIL	X		X	X		X	X	G		X		E	E	E	E	E
PINENE	X		X	X		X	X	G		X		E	E	G	E	E
POLY CHLORINATED BIPHENOL												E			E	
POLYETHYLENE GLYCOL E-400	E	E		E		E				E			E		E	
POLYOL ESTER					X		G		G					X		
POLYPROPYLENE GLYCOL	E			E		E		E				E			E	
POTASSIUM ACETATE	E		E	C		E	G	G	G	X		E	E	X	C	E
POTASSIUM BISULFATE	E		E	E		E	E	E	G	G		E	E		E	E
POTASSIUM BISULFITE	E		E	E		E	E	E	G	G		E	E	E	E	
POTASSIUM CARBONATE	E		E	E	X	E	E	E	C	E		E	E	C	E	E
POTASSIUM CHLORIDE	E	G	E	E	G	E	E	E	E	E		E	E	E	E	
POTASSIUM CHROMATE	G		E	C		G	E	E	G	G		E	G	G	E	G
POTASSIUM CYANIDE	E	G	E	E	G	E	G	E	E	E		E	E	E	E	E
POTASSIUM DICHROMATE	E	X	E	E		C	E	E	G	G		E	G	G	E	G
POTASSIUM HYDRATE	E		G	E		G	G	G	G	G		E		G	C	E
POTASSIUM HYDROXIDE	G	X	E	E	C	G	G	G	G	G	G	E	G	C	G	E
POTASSIUM NITRATE	E		E	E	G	E	E	E	G	E		E	E	E	E	E
POTASSIUM PERMANGANATE, 5%	E		E	G	X	E	E	C	X	G		E	E	X	E	
POTASSIUM SILICATE	E		E	E		E	E	E	G	E		E		E	E	E
POTASSIUM SULFATE	E		E	E	G	E	E	E	E	G		E	E	E	E	E
POTASSIUM SULFIDE	E		E	E		G	E	E	E	G		E	E	E	E	
POTASSIUM SULFITE	E		E	E		G	E	E	E	G		E		E	E	E
PRESTONE ANTIFREEZE	E	G	E	E	G	E	C	E	G	E	E	E		X	E	

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
PRODUCER GAS	X		X	G		X	G	E		X		E		E	E	
PROPANEDIOL	C		E	E		E	C	E		E		E		G	E	
PROPANETRIOL	E	E	E	E	E	E	E	E	G	E	X	E		C	E	
PRPOANOL	E		E	E		E	E	E		E	E	E		X	E	E
PRPANOLAMINE		E														
PROPANONE	E	G	E	X	C	C	X	X	E	C	E	E		X	X	
PROPEN-1-OL	E		E	E		E	E	E				E	E		G	E
PROPENEDIAMENE		E														
PROPENENITRILE	X					G	X	X				E				
PROPENYLALCOHOL	E		E	E		E	E	E				E	E		G	E
PROPENYLANISOLE	X			X		X		X				E			G	
PROPIONIC ACID	E		E	G		E	C	C		X		E		X	X	E
PROPIONITRILE	E		E			E	G	X			X	E			X	
PROPYL ACETATE	G		E	X		X	X	X		X		E	E	X	X	E
PROPYL ALCOHOL	E		E	E		E	E	E		E	E	E	E	X	E	E
PROPYL ALDEHYDE	G			X		C		X				E	E		X	E
PROPYL BENZENE		C														
PROPYL CHLORIDE	C			X		X		X				E	E		G	E
PROPYL ETHER		E														
PROPYL NITRATE	G		G	X		X	X	X		X		E		X	X	
PROPYLENE	X		X	X		X	X	X		X		E		X	E	
PROPYLENE DIAMINE	E			C		G		G				E				
PROPYLENE GLYCOL	C		E	E		E	C	E		E		E	E	G	E	
PYDRAUL,'E' SERIES	G		G	X	G	X	X	X	G	X		E	E	X	E	E
PYDRAULIC'C'	X		X	X	C	X	X	X	E	X	E	E		X	E	
QUINTOLUBRIC 822 SERIES	X		X			X	X	G							G	
RED OIL	X	X	C	G	E	X	C	E	E	X		E		G	E	
REFRIGERANT 11	X		X	E	E	X	X	G		X		E		C	C	
REFRIGERANT 12	C	C	C	E	E	C	E	E	G	E	X	E		E	G	C
REFRIGERANT 22	X	C	E	E	X	C	E	X	G	E	X	E		X	C	C
RESORCINOL			G		X		X		X	G	X	E		X	E	
SAE NO. 10 OIL	X	G	X	X	E	X	C	E	E	X	X	E		E	E	
SAL AMMONIAC	E	G	E	E	E	E	E	E	C	E		E		G	E	
SEA WATER	E		E	E	E	E	G	E	E	E	E	E	E	C	E	E
SEWAGE	G		E	E	G	G	G	E	E	G	G	E	E	X	E	E
SILICATE ESTERS	C		X	G	C	X	E	G	G	X		E		E	E	
SILICATE OF SODA	E		E	E		E	E	E				E			E	E
SILICONE GREASE	E		E	E	E	E	E	E	E	E		E		E	E	
SILICONE OIL	E		E	E	G	C	E	E	E	E		E	E	E	E	
SILVER NITRATE	E		E	E		E	E	G	E	E		E	E	E	E	E
SKYDROL 500 TYPE 2	G	G	E	X	G	X	X	X	G	X	E	E		X	X	
SKYDROL 500B	G	G	E	X	E		X		E		E	E		C	X	
SKYDROL 500C	G	G		X	E		X					E			X	
SKYDROL 7000 TYPE 2	E	G	E	X	X	X	X	X	E	X		E		X	G	
SOAP SOLUTIONS	G	G	E	E	E	G	G	E	E	G	E	E	E	E	E	E
SODA ASH	E	G	E	E	G	E	E	E	G	E		E	E	G	E	E
SODA LIME	E		E	G		E	G	G				E	E	C	G	E
SODA NITER	E	G	E	E	G	G	G	G	E	G		E		G	E	E
SODA, CAUSTIC	E	C	E	E	C	G	E	C	G	E	C	E	E	G	X	E
SODIUM ACETATE	E		E	C		E	G	G	G	X		E	E	X	X	E
SODIUM ALUMINATE	E		E	E		G	E	E	G	G		E	E		E	E
SODIUM BICARBONATE	E		E	E	G	E	E	E	E	E		E	E	E	E	E
SODIUM BISULFATE	E	X	E	E	C	E	E	G	C	G		E	E	E	E	E
SODIUM BISULFITE	E		E	E	G	E	E	E	E	G		E	E	E	E	C
SODIUM BORATE	E		E	E	G	E	E	E	E	E		E	E	G	E	E
SODIUM CARBONATE 10%-15%	G	G	E	E	G	E	E	E	G	E		E	E	G	E	E
SODIUM CHLORIDE	G	G	E	E	E	E	E	E	G	E	C	E	E	E	E	E
SODIUM CYANIDE	E	G	E	E	G	E	E	E	E	E		E	E	G	E	E
SODIUM DICHROMATE	E		C	G		X	C	E	G	G		E	E	G	C	G
SODIUM HYDRATE	E		E	G		E	G	G	G	G		E		C	G	E
SODIUM HYDROCHLORITE	G		G	E		C	C	C	G	G		E		C	E	G
SODIUM HYDROXIDE (CAUSTIC SODA)	F	C	E	F	C	E	G	C	G	G	C	E	E	C	C	E
SODIUM HYPOCHLORITE	G	X	G	G	C	X	C	X	X	C	C	E	E	C	C	G
SODIUM METAPHOSPHATE	G		E	G		E	G	E	E	E		E	E	G	E	E
SODIUM NITRATE	E	G	E	E	G	G	G	G	E	G		E	E	G	E	E
SODIUM PERBORATE	E	X	E	G	G	G	G	G	E	G		E	E	G	E	E
SODIUM PEROXIDE	E	X	E	G	G	G	G	G	X	G		E	E	X	E	E
SODIUM PHOSPHATE	E		E	E	G	E	C	E	C	E		E	E	E	E	E
SODIUM SILICATE	E	G	E	E	G	E	E	E	E	E		E	E	G	E	
SODIUM SULFATE	E	G	E	E	G	G	E	E	E	G		E	E	E	E	E

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
SODIUM SULFIDE	E	G	E	E	G	G	E	E	E	G		E		E	E	E
SODIUM SULFITE	E		E	E		G	E	E	E	G		E	E	E	E	E
SODIUM THIOSULFATE	E		E	E		E	E	E	G	G		E	E	E	E	E
SOYBEAN OIL	C	G	X	E	G	X	E	E	E	X		E	E	G	E	E
STANNIC CHLORIDE	G	X	E	C	G	G	C	E	C	E		E	E	G	E	E
STANNIC SULFIDE	E			E		E		E				E				E
STANNOUS CHLORIDE	G		C	E	G	E	E	E	C	E		E	E	C	E	
STANNOUS SULFIDE	E			E		E		E				E				E
STEARIC ACID	G	G	G	C	G	C	G	E	E	G	E	E	E	E	E	E
STODDARD SOLVENT	X	G	X	X	E	X	C	E	E	X	X	E	E	G	E	E
STYRENE MONOMER	X		X	X	X	X	X	X		X		E	G	C	G	G
SULFAMIC ACID	E		X	E		G	G	C				E		X	E	C
SULFUR	F		F	F		X	X	X		X		E	E		G	X
SULFUR CHLORIDE	X	G	X	C	C	X	C	C	C	X		E	E	C	E	E
SULFUR DIOXIDE	G		E	C	X	C	X	X	X	C		E	G		E	C
SULFUR TRIOXIDE, DRY	G		G	C	X	C	X	X		X		E	X	G	E	G
SULFURIC ACID 60% (200F)	X	X	X		X		X	X	X	X			X		C	X
SULFURIC ACID, 25%	G	X	E	E	E	G	E	E	X	G	E	E	E	X	E	E
SULFURIC ACID, 25% - 50%	G	X	E	G	G	G	E	E	X	G		E	E	X	E	E
SULFURIC ACID, 50% - 96%	X	X	G	C	X	X	C	C	X	X		E	E	X	E	E
SULFURIC ACID, CONC. 96% TO 98%	X	X	X	X	X	X	X	X	X	X		E	E	X	G	C
SULFURIC ACID, FUMING	X	X	X	X	X	X	X	X	X	X		E	X	X	G	X
SULFUROUS ACID, 10%	E	X	E	E	C	G	G	C	C	G		E	E		E	E
SULFUROUS ACID 10% - 85%	E	X	G	E	C	G	C	C	X	C		E	E	X	G	E
SUTAN												E			F	E
TALL OIL	X		X	C		X	C	E		X		E	E	E	E	C
TALLOW	G		E	C		C	G	E		X		E	E	E	E	C
TANNIC ACID	E	X	E	E	G	E	E	E	G	G	E	E	E	E	E	E
TAR, BITUMINOUS	X	G	X	C	G	C	C	G	G	X		E		G	E	
TAR, CAMPHOR	X	C	X	X	C	X	X	X	G	X	C	E	X	G	E	X
TARTARIC ACID	G	X	C	E	G	E	E	E	E	G	E	E	E	E	E	E
T-BUTYLAMINE			G	X												
TELONE2																E
TERPINOL	C	E	C	X		X	X	G		X		E	G	G	E	G
TERTIARY BUTYL ALCOHOL	G		G	G		G	G	G		G		E	E	X	E	E
TERTIARY BUTYLAMINE			G	X												
TERTIARY BUTYL MERCAPTAN	X		X	X		X	X	X		X		E		X	E	
TETRACHLOROBENZENE	X			X		X		X				E		G	G	G
TETRACHLOROETHANE	X		X	X		X	X	X		X	C	E	C	X	E	
TETRACHLOROETHYLENE	X		X	X		X	X	C	C	X		E	G	X	E	E
TETRACHLOROMETHANE	X		X	X		X	X	X				E		C	E	E
TETRACHLORONAPHTHALENE	X			X		X		X				E			G	G
TETRAETHYLENE GLYCOL	E			E		E		E				E			E	
TETRAETHYLORTHOSILICATE	E					X	X	X				E				
TETRAHYDROFURAN	G		X	X	C	X	X	X	G	X	X	E	G	X	X	X
THF TIN CHLORIDES	G		X	X	C	X	X	X	G	X	X	E	G	X	X	X
TITANIUM	G		E	E		E	C	E				E	E	G	E	E
TETRACHLORIDE	X		X	X		X	X	C		X		E	G	X	E	
TOLUENE	X	C	X	X	C	X	X	X	E	X	X	E	E	X	E	E
TOLUIDINE	X			X		X		X				E			G	
TOLUOL	X	C	X	X	C	X	X	X	E	X	X	E		X	E	
TRANSFORMER OIL	X		X	C		X	G	E		X		E	E	E	E	
TRANSMISSION 'A' OIL	X		X	G	G	X	G	E	G	X		E		E	E	F
TRI (2-HYDROXYETHYL) AMINE	G		E	E	X	G	X	C		G		E		X	X	
TRIBUTYL AMINE	E			C		G		G				E				
TRIBUTYL PHOSPHATE	G		E	X	C	C	X	X	G	X		E	E	X	X	E
TRICHLOROACETIC ACID	G		G	C	X	C	X	C	X	X		E	E	X	X	E
TRICHLOROBENZENE	X			X		X	X	X		X		E		X	G	
TRICHLOROETHANE	X		X	X		X	X	X	X	X		E		X	E	
TRICHLOROETHYLENE	X	C	X	X	X	X	X	X	C	X	X	E	G	X	E	G
TRICHLOROMETHANE	X	X	X	X	X	X	X	X	C	X	X	E		X	E	
TRICHLOROTOLUENE								X				E				
TRICRESYL PHOSPHATE	E		E	X	C	C	C	X	G	X		E	E	X	E	E
TRIETHANOLAMINE	G		E	E	X	G	X	C		G		E	E	X	X	E
TRIETHYLAMINE	C		E			G	G	E		X		E		X	E	
TRIETHYLENE GLYCOL	E			E		E		E				E			E	
TRIHYDROXYBENZOIC ACID	G		G	G	X	E	G	G	G	G		E		X	E	
TRIMETHYL PENTANES (MIXED)	X	E	X	C	E	X	C	E	E	X	X	E		G	E	
TRIMETHYL PENTENE		E														
TRIMETHYLAMINE		E										E	E			E

Chemical or Material Conveyed	Butyl	CPE	EPDM	Hypalon	Hytrel	Natural	Neoprene	Nitrile	Nylon	SBR	Santoprene	Teflon	UHMW	Urethane	Viton	XLPE
TRISODIUM PHOSPHATE	E		E	E	E	E	E	E	E	E		E		E	E	E
TRITOYL PHOSPHATE	E		E	X	C	X	X	X	G	X		E		X	E	
TUNG OIL	X	C	X	E	G	X	E	E	G	X		E	E	C	E	E
TUNG OIL (CHINA OIL)	C	C	X	E	G	X	E	E	G	X		E	E	C	E	E
TURPENTINEX	X	G	X	X		X	X	X	E	X	X	E	G	E	E	G
UDMH	E		E	E		E	G	G		X		E		X	X	
UNDECYL ALCOHOL	E			E		E		E				E			G	
UREA	E		E	E	G	E	G	G	E			E	E	G	E	E
URETHANE FORMULATIONS								E	E			E				
URIC ACID					X				G		E	E		X		
VARNISH	X	C	X	X		X	X	G	E	X		E		C	E	
VEGETABLE OILS	C		C	G		X	C	E	G	X		E	E	E	E	E
VERSILUBE F44	E		E	E		E	E	E	E	E		E		E	E	
VERSILUBE F55	E		X	E		E	E	E	E	E		E		E	E	
VINEGAR	E		E	E	C	G	G	G	E	G		E	X	C	E	X
VINEGAR ACID		G														
VINYL ACETATE	E		G	C		X	X	X		X		X	E	X	E	E
VINYL BENZENE	X		X	X	X	X	X	X		X		E	E	C	G	G
VINYL CHLORIDE (GAS)	X		G			G						E	E			E
VINYL CYANIDE	X	E	X	C		C	C	X	E	C	X	E		X	C	
VINYL ETHER	X			G		X		G				E	E		X	E
VINYL STYRENE	X			X		X				X		E	E		E	E
VINYL TOLUENE	X			X		X		X				E	E		E	E
VINYL TRICHLORIDE	X			X		X	X	X				E	E		E	E
VITAL, 4300, 5310			X					X	E			E				
VM&P NAPHTHA	X		X	X		X	C	C				E			E	X
WATER	E	G	E	E	E	E	G	E	E	G	E	E	E	E	E	E
WATER, BOILING	E		E	E	C		G	G	X	G	G	G	X	G	G	X
WATER, SODA					E				E		E	E				
WEMCO C	X		X	X		X	G	E		X				E	E	
WHISKEY	E		E	E	G	E	E	E	E	E		E	X	X	E	X
WHITE OIL	X		X	X		X	G	E		X		E	E	E	E	X
WHITE PINE OIL	X		X	X		X	X	G		X					E	
WINES	E		E	E	G	E	E	E	E	E		E	X	X	E	X
WOOD ALCOHOL	E		E	E		E	E	E		E		E	E	X	C	E
WOOD OIL	C		X	C	G	X	G	E	G	X		E	E	C	E	E
XENON	E		E	E		E	E	E		E		E		E	E	
XYLENE, XYLOL	X	C	X	X	C	X	X	X	G	X	X	E	C	C	E	C
XYLIDINE	G		C	X		X	X	C		X		E	G		C	G
ZEOLITES	E		E	E		E	E	E		E					E	
ZINC ACETATE	E		E	C		E	G	G		X		E		X	C	
ZINC CARBONATE	E		E	E		E	E	E				E	E	E	E	E
ZINC CHLORIDE	E	X	E	E	E	E	E	E	E	E		E	E	G	E	E
ZINC CHROMATE	E			C								E				G
ZINC SULFATE	E	X	E	E	C	E	E	E	X	G		E	E	G	E	E

PETROLEUM HOSE

TANK TRUCK HOSE

The industry standard for tank truck, in-plant operations to transfer gasoline, oil and other petroleum base products up to 50% aromatic content.

Structure

- **Tube :** Nitrile synthetic rubber ARPM class A (High oil resistance)
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire.
- **Cover :** Black (or Red) abrasion, oil, weather & ozone resistant Neoprene rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30°C ~ 80°C)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft (1"~6"), 30m / 100ft (8")

※ Branding

HWASEUNG Corp KOREA | *TANK TRUCK HOSE* (HIGH OIL RESISTANT) | HARD WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
TT15SBK(Black) / TT15SRD(Red)												
TT15SBK/RD-102	1	25.4	1.44	36.5	10	150	40	600	6	150	0.90	0.60
TT15SBK/RD-132	1 1/4	31.8	1.69	42.9	10	150	40	600	8	200	1.08	0.73
TT15SBK/RD-152	1 1/2	38.1	1.94	49.2	10	150	40	600	10	250	1.26	0.85
TT15SBK/RD-202	2	50.8	2.45	62.3	10	150	40	600	12	300	1.72	1.16
TT15SBK/RD-252	2 1/2	63.5	2.95	75.0	10	150	40	600	16	400	2.09	1.40
TT15SBK/RD-302	3	76.2	3.48	88.3	10	150	40	600	20	500	2.81	1.89
TT15SBK/RD-402	4	101.6	4.54	115.2	10	150	40	600	28	700	4.06	2.73
TT15SBK/RD-502	5	127.0	5.63	143.1	10	150	40	600	40	1,000	7.85	5.27
TT15SBK/RD-604	6	152.4	6.83	173.6	10	150	40	600	48	1,200	8.95	6.01
TT15SBK/RD-804	8	203.2	8.94	227.1	10	150	40	600	64	1,600	14.09	9.47
TT30SBK(Black)												
TT30SBK-152	1 1/2	38.1	1.97	50.0	20	300	80	1,200	10	250	1.31	0.88
TT30SBK-202	2	50.8	2.50	63.4	20	300	80	1,200	12	300	1.88	1.26
TT30SBK-252	2 1/2	63.5	3.00	76.1	20	300	80	1,200	16	400	2.30	1.55
TT30SBK-304	3	76.2	3.63	92.1	20	300	80	1,200	20	500	3.34	2.24
TT30SBK-404	4	101.6	4.71	119.6	20	300	80	1,200	28	700	4.93	3.31
TT30SBK-504	5	127.0	5.81	147.5	20	300	80	1,200	40	1,000	7.90	5.31
TT30SBK-606	6	152.4	6.96	176.9	20	300	80	1,200	48	1,200	10.35	6.95
TT50SBK(Black)												
TT50SBK-204	2	50.8	2.75	69.8	35	500	140	2,000	12	300	2.60	1.75
TT50SBK-306	3	76.2	3.90	99.0	35	500	140	2,000	20	500	4.64	3.12
TT50SBK-408	4	101.6	5.07	128.7	35	500	140	2,000	28	700	7.57	5.09

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

FLEX. TANK TRUCK HOSE

The industry standard for tank truck, in-plant operations to transfer gasoline, oil and other petroleum base products under pressure or full-suction where maximum flexibility is needed.

Structure

- **Tube :** Nitrile synthetic rubber ARPM class A (High oil resistance)
- **Reinforcement :** Spiral-plied synthetic fabric with dual helix wire.
- **Cover :** Black (or Red) abrasion, oil, weather & ozone resistant Neoprene rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30°C ~ 80°C)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

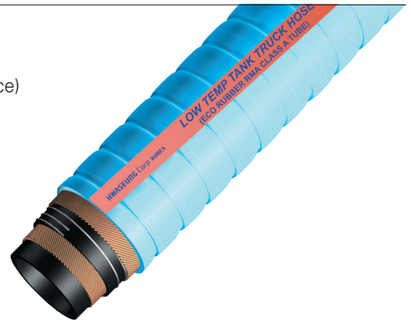
※ Branding

HWASEUNG Corp KOREA | *FLEX. TANK TRUCK HOSE* (HIGH OIL RESISTANT) | HARD WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
TT15FBK(Black) / TT15FRD(Red)												
TT15FBK/RD-152	1 1/2	38.1	1.96	49.8	10	150	40	600	6	150	1.10	0.74
TT15FBK/RD-202	2	50.8	2.48	62.9	10	150	40	600	8	200	1.47	0.99
TT15FBK/RD-252	2 1/2	63.5	3.00	76.2	10	150	40	600	10	250	1.92	1.29
TT15FBK/RD-302	3	76.2	3.52	89.5	10	150	40	600	12	300	2.37	1.59
TT15FBK/RD-402	4	101.6	4.65	118.2	10	150	40	600	16	400	3.80	2.55
TT15FBK/RD-502	5	127.0	5.65	143.6	10	150	40	600	25	650	4.74	3.19
TT15FBK/RD-604	6	152.4	6.76	171.7	10	150	40	600	30	750	6.41	4.31
TT30FBK(Black)												
TT30FBK-202	2	50.8	2.54	64.6	20	300	80	1,200	8	200	1.68	1.13
TT30FBK-304	3	76.2	3.66	92.9	20	300	80	1,200	12	300	2.85	1.92
TT30FBK-404	4	101.6	4.86	123.4	20	300	80	1,200	16	400	5.05	3.39
TT30FBK-606	6	152.4	6.91	175.4	20	300	80	1,200	30	750	7.79	5.23
TT50FBK(Black)												
TT50FBK-204	2	50.8	2.77	70.4	35	500	140	2,000	8	200	2.51	1.69
TT50FBK-306	3	76.2	3.93	99.8	35	500	140	2,000	12	300	4.43	2.98
TT50FBK-408	4	101.6	5.14	130.6	35	500	140	2,000	16	400	7.03	4.72

LOW TEMP TANK TRUCK HOSE

The hose is for use in low-temperature operations for transferring gasoline, oil and other petroleum base products.



Structure

- **Tube :** Low temperature oil resistant ECO rubber ARPM class A (High oil resistance)
- **Reinforcement :** Spiral-plied synthetic fabric with dual helix wire.
- **Cover :** Blue low temperature oil resistant Neoprene rubber (Flat-corrugated cover)

Specification

- **Temperature :** -65°F ~ 180°F (-54°C ~ 80°C)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

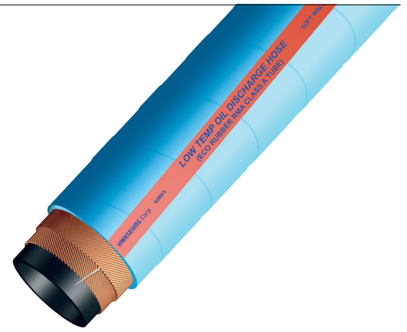
※ Branding

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
LT15FBU(Blue)												
LT15FBU-202	2	50.8	2.50	63.4	10	150	40	600	8	200	1.63	1.10
LT15FBU-252	2 1/2	63.5	3.00	76.1	10	150	40	600	10	250	1.96	1.32
LT15FBU-302	3	76.2	3.56	90.4	10	150	40	600	12	300	2.71	1.82
LT15FBU-402	4	101.6	4.68	118.8	10	150	40	600	16	400	4.16	2.80

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

LOW TEMP OIL DISCHARGE HOSE

The softwall hose is for the discharge of gasoline, oil and other petroleum based products in low-temperature operations.



Structure

- **Tube :** Low temperature oil resistant ECO rubber ARPM class A (High oil resistance)
- **Reinforcement :** Spiral-plied synthetic fabric with dual helix wire.
- **Cover :** Blue low temperature oil resistant Neoprene rubber (Flat-corrugated cover)

Specification

- **Temperature :** -65°F ~ 180°F (-54°C ~ 80°C)
- **Max. Length :** 60m / 200ft

※ Branding

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
LT20DBU(Blue)												
LT20DBU-102	1	25.4	1.46	37.0	14	200	56	800	10	250	0.79	0.53
LT20DBU-132	1 1/4	31.8	1.71	43.4	14	200	56	800	12	300	0.95	0.64
LT20DBU-152	1 1/2	38.1	1.96	49.7	14	200	56	800	15	400	1.11	0.75
LT20DBU-202	2	50.8	2.50	63.6	14	200	56	800	20	500	1.61	1.08

OIL DISCHARGE HOSE(1)

The softwall hose is for the discharge of gasoline, oil and other petroleum based products on tank and docks.

Structure

- Tube : Nitrile synthetic rubber ARPM class A (High oil resistance)
- Reinforcement : Spiral-plied synthetic fabric
- Cover : Black abration, oil, weather & ozone resistant Neoprene rubber

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | OIL DISCHARGE HOSE (HIGH OIL & OZONE RESISTANT) | SOFT WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
DC2CP												
DC2CP-132	1 1/4	31.8	1.64	41.7	10	150	40	600	13	330	0.76	0.51
DC2CP-152	1 1/2	38.1	1.89	48.0	10	150	40	600	15	380	0.88	0.59
DC2CP-172	1 3/4	44.5	2.14	54.4	10	150	40	600	18	450	1.01	0.68
DC2CP-202	2	50.8	2.39	60.7	10	150	40	600	20	500	1.14	0.77
DC2CP-252	2 1/2	63.5	2.89	73.4	7	100	28	400	25	650	1.39	0.93
DC2CP-302	3	76.2	3.39	86.1	7	100	28	400	30	750	1.65	1.11
DC2CP-352	3 1/2	88.9	3.94	100.0	5	70	20	280	35	900	2.15	1.44
DC2CP-402	4	101.6	4.47	113.5	5	70	20	280	40	1,000	2.63	1.77
DC3CP												
DC3CP-133	1 1/4	31.8	1.69	43.0	10	150	40	600	13	330	0.86	0.58
DC3CP-153	1 1/2	38.1	1.94	49.3	10	150	40	600	15	380	1.00	0.67
DC3CP-173	1 3/4	44.5	2.19	55.7	10	150	40	600	18	450	1.15	0.77
DC3CP-203	2	50.8	2.44	62.0	10	150	40	600	20	500	1.29	0.87
DC3CP-253	2 1/2	63.5	2.94	74.7	7	100	28	400	25	650	1.57	1.05
DC3CP-303	3	76.2	3.44	87.4	7	100	28	400	30	750	1.86	1.25
DC3CP-353	3 1/2	88.9	3.99	101.3	5	70	20	280	35	900	2.40	1.61
DC3CP-403	4	101.6	4.52	114.8	5	70	20	280	40	1,000	2.90	1.95
DC4CP												
DC4CP-134	1 1/4	31.8	1.74	44.3	15	215	60	860	13	330	0.97	0.65
DC4CP-154	1 1/2	38.1	1.99	50.6	15	215	60	860	15	380	1.13	0.76
DC4CP-174	1 3/4	44.5	2.24	57.0	15	215	60	860	18	450	1.29	0.87
DC4CP-204	2	50.8	2.49	63.3	15	215	60	860	20	500	1.44	0.97
DC4CP-254	2 1/2	63.5	2.99	76.0	15	215	60	860	25	650	1.76	1.18
DC4CP-304	3	76.2	3.49	88.7	10	150	40	600	30	750	2.07	1.39
DC4CP-354	3 1/2	88.9	4.04	102.6	10	150	40	600	35	900	2.64	1.77
DC4CP-404	4	101.6	4.57	116.1	10	150	40	600	40	1,000	3.18	2.14

OIL DISCHARGE HOSE(2)

The softwall hose is for the discharge of gasoline, oil and other petroleum based products on tank and docks.

Structure

- Tube : Nitrile synthetic rubber ARPM class A (High oil resistance)
- Reinforcement : Spiral-plied synthetic fabric with static wire
- Cover : Black(or Red) abration, oil, weather & ozone resistant Neoprene rubber

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | OIL DISCHARGE HOSE (HIGH OIL & OZONE RESISTANT) | SOFT WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
OD20DBK(Black) / OD20DRD(Red)												
OD20DBK/RD-102	1	25.4	1.42	36.1	14	200	56	800	10	250	0.70	0.47
OD20DBK/RD-132	1 1/4	31.8	1.67	42.5	14	200	56	800	13	330	0.83	0.56
OD20DBK/RD-152	1 1/2	38.1	1.96	49.9	14	200	56	800	15	380	0.97	0.65
OD20DBK/RD-202	2	50.8	2.46	62.6	14	200	56	800	20	500	1.41	0.95
OD20DBK/RD-252	2 1/2	63.5	2.96	75.3	14	200	56	800	25	650	1.71	1.15
OD20DBK/RD-304	3	76.2	3.56	90.3	14	200	56	800	30	750	2.37	1.59
OD20DBK/RD-404	4	101.6	4.64	117.8	14	200	56	800	40	1,000	3.68	2.47
OD20DBK/RD-504	5	127.0	5.64	143.2	14	200	56	800	50	1,300	4.52	3.04
OD20DBK/RD-606	6	152.4	6.75	171.4	14	200	56	800	60	1,500	6.30	4.23
OD20DBK/RD-806	8	203.2	8.75	222.2	14	200	56	800	80	2,000	8.26	5.55
OD30DBK(Black)												
OD30DBK-202	2	50.8	2.48	63.0	20	300	80	1,200	20	500	1.46	0.98
OD30DBK-304	3	76.2	3.59	91.2	20	300	80	1,200	30	750	2.60	1.75
OD30DBK-404	4	101.6	4.62	117.4	20	300	80	1,200	40	1,000	3.54	2.38
OD30DBK-506	5	127.0	5.84	148.4	20	300	80	1,200	50	1,300	5.99	4.03
OD30DBK-606	6	152.4	6.84	173.8	20	300	80	1,200	60	1,500	7.10	4.77
OD50DBK(Black)												
OD50DBK-204	2	50.8	2.56	65.0	35	500	140	2,000	20	500	1.72	1.16
OD50DBK-306	3	76.2	3.67	93.2	35	500	140	2,000	30	750	2.97	2.00
OD50DBK-408	4	101.6	4.78	121.4	35	500	140	2,000	40	1,000	4.51	3.03
OD50DBK-508	5	127.0	5.78	146.8	35	500	140	2,000	50	1,300	5.52	3.71
OD50DBK-610	6	152.4	6.91	175.4	35	500	140	2,000	60	1,500	7.56	5.08

RED OIL DISCHARGE HOSE

Designed for use in trucks, docks and barges where a light, easily handled hose is desired.

Structure

- Tube : Nitrile synthetic rubber ARPM class A (High oil resistance)
- Reinforcement : Spiral-plied synthetic fabric with static wire
- Cover : Red abrasion, oil, weather & ozone resistant synthetic rubber (EPDM/NR/SBR)

Specification

- Temperature : -20°F ~ 180°F(-30℃ ~ 80℃)
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | RED OIL DISCHARGE HOSE (HIGH OIL & OZONE RESISTANT) | SOFT WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
OD15DRD(Red)												
OD15DRD-204	2	50.8	2.54	64.5	10	150	40	600	20	500	1.59	1.07
OD15DRD-304	3	76.2	3.54	89.9	10	150	40	600	30	750	2.27	1.53
OD15DRD-404	4	101.6	4.54	115.3	10	150	40	600	40	1,000	2.96	1.99

HOT TAR & ASPHALT HOSE

Designed for suction & discharge of hot tar and asphalt.

Structure

- Tube : Nitrile synthetic rubber (High oil resistance)
- Reinforcement : Spiral-plied synthetic fabric with helix wire.
- Cover : Nitrile synthetic rubber(NBR)

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | HOT TAR & ASPHALT HOSE (HIGH OIL & OZONE RESISTANT) | HARD WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
TA15BK(Black)												
TA15BK-152	1 1/2	38.1	2.15	54.5	10	150	40	600	10	250	1.87	1.26
TA15BK-202	2	50.8	2.65	67.2	10	150	40	600	12	300	2.39	1.61
TA15BK-252	2 1/2	63.5	3.17	80.4	10	150	40	600	16	400	2.94	1.98
TA15BK-302	3	76.2	3.68	93.5	10	150	40	600	20	500	3.56	2.39
TA15BK-402	4	101.6	4.75	120.6	10	150	40	600	28	700	4.97	3.34

SAE 100R4 SUCTION HOSE

Meets or exceeds SAE100 R4 for low pressure hydraulic return line or suction line. This hose is designed for transferring petroleum based hydraulic fluids, water-glycol oil, lubricants, fuel oils and water.

Structure

- Tube : Nitrile synthetic rubber ARPM class A (High oil resistance)
- Reinforcement : Spiral-plied synthetic fabric with dual helix wire
- Cover : Black abrasion, oil, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | SAE 100R4 SUCTION HOSE (HIGH OIL & OZONE RESISTANT) | HARD WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
100R4BK(Black)												
100R4BK-102	1	25.4	1.50	38.0	17	250	68	1,000	6	150	0.95	0.64
100R4BK-132	1 1/4	31.8	1.75	44.4	14	200	56	800	8	200	1.15	0.77
100R4BK-152	1 1/2	38.1	2.00	50.7	10	150	40	600	10	250	1.37	0.92
100R4BK-202	2	50.8	2.52	63.9	7	100	28	400	12	300	1.92	1.29

OIL FIELD SUCTION HOSE

Ideal for handling crude, brine, drilling, mud, tank bottoms, mild solutions of hydrochloric acids. Not recommended for refined petroleum products when aromatic content exceed 35%.

Structure

- Tube : Special black synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric with dual helix wire
- Cover : Black weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- Temperature : -20F to 180F(-30℃ to 80℃)
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | OIL FIELD SUCTION HOSE (WEATHER & OZONE RESISTANT) | HARD WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
OF15SBK(Black)												
OF15SBK-152	1 1/2	38.1	1.96	49.7	10	150	30	450	10	250	1.25	0.84
OF15SBK-202	2	50.8	2.47	62.8	10	150	30	450	12	300	1.66	1.12
OF15SBK-252	2 1/2	63.5	2.97	75.5	10	150	30	450	16	400	2.03	1.36
OF15SBK-302	3	76.2	3.53	89.6	10	150	30	450	20	500	2.89	1.94
OF15SBK-402	4	101.6	4.55	115.6	10	150	30	450	28	700	3.92	2.63

FLEX. OIL FIELD SUCTION HOSE

Ideal for handling crude, brine, drilling, mud, tank bottoms, mild solutions of hydrochloric acids. Not recommended for refined petroleum products when aromatic content exceed 35%.

Structure

- **Tube :** Special black synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric with dual helix wire
- **Cover :** Black weather & ozone resistant synthetic rubber (Flat-corrugated cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | *FLEX. OIL FIELD SCUTION HOSE* (WEATHER & OZONE RESISTANT) | HARD WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
OF15FBK(Black)												
OF15FBK-152	1 1/2	38.1	1.97	50.1	10	150	30	450	6	150	1.12	0.75
OF15FBK-202	2	50.8	2.49	63.2	10	150	30	450	8	200	1.52	1.02
OF15FBK-252	2 1/2	63.5	3.01	76.5	10	150	30	450	10	250	1.98	1.33
OF15FBK-302	3	76.2	3.54	89.8	10	150	30	450	12	300	2.43	1.63
OF15FBK-402	4	101.6	4.65	118.0	10	150	30	450	16	400	3.91	2.63
OF15FBK-502	5	127.0	5.65	143.6	10	150	30	450	25	650	4.76	3.20
OF15FBK-602	6	152.4	6.67	169.4	10	150	30	450	30	750	5.83	3.92

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

FRAC TANK HOSE

Ideal for handling crude, brine, drilling, mud, tank bottoms, mild solutions of hydrochloric acids. Not recommended for refined petroleum products when aromatic content exceed 35%.

Structure

- **Tube :** Special black synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric with dual helix wire
- **Cover :** Black weather & ozone resistant synthetic rubber (Corrugated cover)

Specification

- **Temperature :** -20°F ~ 180°F (–30℃ ~ 80℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | *FRAC TANK HOSE* (WEATHER & OZONE RESISTANT) | HARD WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
FR15CBK(Black)												
FR15CBK-804	8	203.2	8.89	225.8	10	150	30	450	40	1,000	11.00	7.39

BS 1435 S15 DOCK OSD HOSE

Designed for handling petroleum products up to 50% aromatics on marine docks, ships and barges.

Structure

- Tube : Nitrile synthetic rubber ARPM class A (High oil resistance)
- Reinforcement : Spiral-plied synthetic fabric with dual helix wire
- Cover : Black abrasion, oil, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft(1"~6"), 30m / 100ft(8")

※ Branding

HWASEUNG Corp KOREA | *BS 1435 S15 DOCK OSD HOSE* (HIGH OIL & OZONE RESISTANT) | HARD WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
BS22SBK(Black)												
BS22SBK-304	3	76.2	3.81	96.9	15	225	60	900	20	500	4.11	2.76
BS22SBK-406	4	101.6	5.02	127.6	15	225	60	900	28	700	7.03	4.72
BS22SBK-606	6	152.4	7.15	181.5	15	225	60	900	48	1,200	11.52	7.74
BS22SBK-808	8	203.2	9.48	240.7	15	225	60	900	64	1,600	21.13	14.20

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

FLAT OIL HOSE

Lightweight-designed for trucks and docks without vacuum

Structure

- Tube : Nitrile synthetic rubber ARPM class A (High oil resistance)
- Reinforcement : Spiral-plied synthetic fabric
- Cover : Black abrasion, oil, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | *FLAT OIL HOSE* (HIGH OIL & OZONE RESISTANT) | SOFT WALL TYPE / W.P - - - BAR | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
FOHCP(Black)												
FOHCP-302	3	76.2	3.31	84.0	10	150	30	450	-	-	1.31	0.88
FOHCP-402	4	101.6	4.31	109.4	10	150	30	450	-	-	1.72	1.16

AIRCRAFT FUELING HOSE

Used for fueling commercial aircraft / durable for aviation fuel

Structure

- **Tube :** Nitrile synthetic rubber (High oil resistance)
- **Reinforcement :** Spiral-plied synthetic fabric
- **Cover :** Black abrasion, oil, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

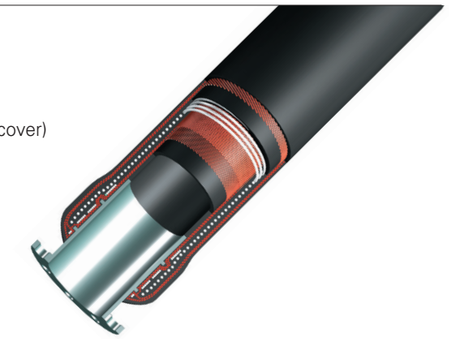
※ Branding

HWASEUNG Corp KOREA **AIRCRAFT FUELING HOSE** **KDS 4720-1295/1298** **YYYY. MM. DD**

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
ACFH(Black)												
ACFH-152	1 1/2	38.1	2.13	54.1	12	150	48	600	15	380	1.51	1.01
ACFH-252	2 1/2	63.5	3.15	79.9	12	150	48	600	25	650	2.39	1.61
ACFH-302	3	76.2	3.61	91.8	12	150	48	600	30	750	2.66	1.79

OIL SUC. & DIS. HOSE WITH FLANGE(S10, S15 TYPE)

Designed for handling petroleum products up to 50% aromatics on marine docks, ships and barges.



Structure

- **Tube :** Nitrile synthetic rubber ARPM class A (High oil resistance)
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Black abrasion, oil, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 22m / 66ft

※ Branding

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
OB10SBK(Black)												
OB10SBK-402	4	101.6	4.92	125.0	10	150	40	600	24	600	8.10	5.44
OB10SBK-604	6	152.4	7.05	179.0	10	150	40	600	34	850	14.20	9.54
OB10SBK-804	8	203.2	9.41	239.0	10	150	40	600	44	1,100	23.00	15.46
OB10SBK-1008	10	254.0	11.54	293.0	10	150	40	600	54	1,350	31.40	21.10
OB10SBK-1210	12	304.8	13.66	347.0	10	150	40	600	64	1,600	38.70	26.00
OB10SBK-1412	14	355.6	15.83	402.0	10	150	40	600	84	2,100	48.80	32.79
OB15SBK(Black)												
OB15SBK-404	4	101.6	5.00	127.0	15	225	60	900	24	600	8.90	5.98
OB15SBK-604	6	152.4	7.13	181.0	15	225	60	900	34	850	14.60	9.81
OB15SBK-806	8	203.2	9.49	241.0	15	225	60	900	44	1,100	23.90	16.06
OB15SBK-1010	10	254.0	11.61	295.0	15	225	60	900	54	1,350	33.10	22.24
OB15SBK-1212	12	304.8	13.74	349.0	15	225	60	900	64	1,600	40.70	27.35
OB15SBK-1414	14	355.6	15.91	404.0	15	225	60	900	84	2,100	51.10	34.34

OIL DISCHARGE HOSE WITH FLANGE(L10, L15 TYPE)

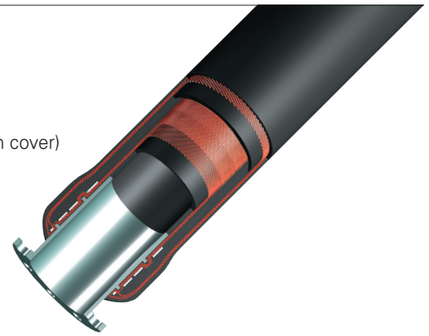
Designed for handling petroleum products up to 50% aromatics on marine docks, ships and barges.

Structure

- **Tube :** Nitrile synthetic rubber ARPM class A (High oil resistance)
- **Reinforcement :** Spiral-plied synthetic fabric with static wire
- **Cover :** Black abrasion, oil, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Max. Length :** 22m / 66ft



※ Branding

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
OB10LBK(Black)												
OB10LBK-402	4	101.6	4.49	114.0	10	150	40	600	-	-	2.90	1.95
OB10LBK-604	6	152.4	6.61	168.0	10	150	40	600	-	-	5.50	3.70
OB10LBK-806	8	203.2	8.82	224.0	10	150	40	600	-	-	9.50	6.38
OB10LBK-006	10	254.0	10.91	277.0	10	150	40	600	-	-	12.30	8.27
OB10LBK-1208	12	304.8	13.03	331.0	10	150	40	600	-	-	19.50	13.10
OB10LBK-1410	14	355.6	15.24	387.0	10	150	40	600	-	-	26.30	17.67
OB15LBK(Black)												
OB15LBK-404	4	101.6	4.61	117.0	15	225	60	900	-	-	3.60	2.42
OB15LBK-606	6	152.4	6.73	171.0	15	225	60	900	-	-	6.50	4.37
OB15LBK-808	8	203.2	8.98	228.0	15	225	60	900	-	-	12.50	8.40
OB15LBK-1010	10	254.0	11.14	283.0	15	225	60	900	-	-	17.60	11.83
OB15LBK-1210	12	304.8	13.15	334.0	15	225	60	900	-	-	21.50	14.45
OB15LBK-1412	14	355.6	15.35	390.0	15	225	60	900	-	-	28.50	19.15

UNIVERSAL FUEL GAS HOSE

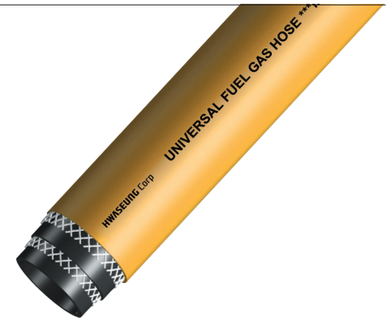
Used for transport lines such as LP GAS, Natural Gas, and Methane

Structure

- **Tube :** High-quality nitrile synthetic rubber (High oil resistance)
- **Reinforcement :** Spiral synthetic yarn
- **Cover :** Abrasion, oil, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Color :** Orange



※ Branding

HWASEUNG Corp **UNIVERSAL FUEL GAS HOSE ***MM(***") I.D MAX. W.P 20BAR**

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight
	inch	mm	inch	mm	bar	psi	bar	psi	kg/m	lb/ft	m
LPG2B											
LPG2B-064	1/4	6.4	0.55	14.0	20	300	60	900	0.17	0.11	100
LPG2B-079	5/16	7.9	0.61	15.5	20	300	60	900	0.20	0.13	100
LPG2B-095	3/8	9.5	0.71	18.0	20	300	60	900	0.26	0.17	100
LPG2B-127	1/2	12.7	0.87	22.0	20	300	60	900	0.36	0.24	100
LPG2B-159	5/8	15.9	1.04	26.5	20	300	60	900	0.50	0.34	50
LPG2B-191	3/4	19.1	1.20	30.5	20	300	60	900	0.64	0.43	50
LPG2B-254	1	25.4	1.50	38.0	20	300	60	900	0.91	0.61	50

FUEL & OIL HOSE(SAE J30 R6)

For use on fuel and oil transport lines attached to gas and construction equipment

Structure

- **Tube :** High-quality nitrile synthetic rubber (High oil resistance)
- **Reinforcement :** Spiral synthetic yarn
- **Cover :** Abrasion, oil, weather & ozone resistant synthetic rubber (NBR/SBR)

Specification

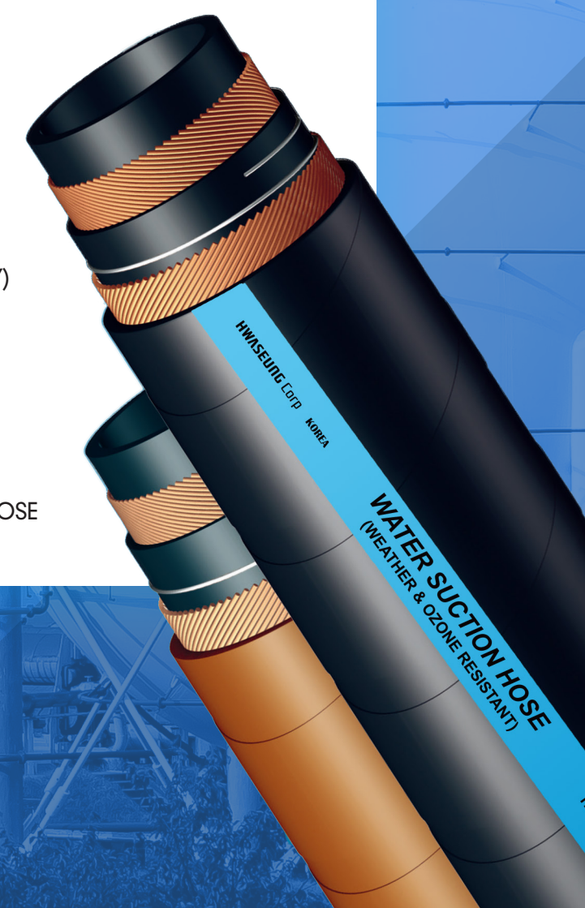
- **Temperature :** -40°F ~ 210°F (-40℃ ~ 100℃)
- **Color :** Black

※ Branding

HWASEUNG Corp **FUEL & OIL HOSE = SAE J30 R6 = ***MM(***") I.D MAX. W.P 20BAR**

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight
	inch	mm	inch	mm	bar	psi	bar	psi	kg/m	lb/ft	m
FOH1B											
FOH1B-048	3/16	4.8	0.47	12.0	20	300	60	900	0.12	0.08	100
FOH1B-064	1/4	6.4	0.52	13.3	20	300	60	900	0.14	0.09	100
FOH1B-079	5/16	7.9	0.59	15.0	20	300	60	900	0.17	0.11	100
FOH1B-095	3/8	9.5	0.65	16.5	20	300	60	900	0.19	0.13	100
FOH1B-127	1/2	12.7	0.79	20.0	20	300	60	900	0.25	0.17	100
FOH1B-159	5/8	15.9	0.94	24.0	20	300	60	900	0.35	0.24	50
FOH1B-191	3/4	19.1	1.14	29.0	20	300	60	900	0.51	0.34	50
FOH1B-254	1	25.4	1.54	39.0	20	300	60	900	0.94	0.63	50

AIR & WATER HOSE



AIR & WATER HOSE

This Air & Water hose is for a wide range of industrial, construction applications.

Structure

- Tube : Black synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric
- Cover : Black abrasion, weather & ozone resistant synthetic rubber

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Max. Length : 60m / 200ft

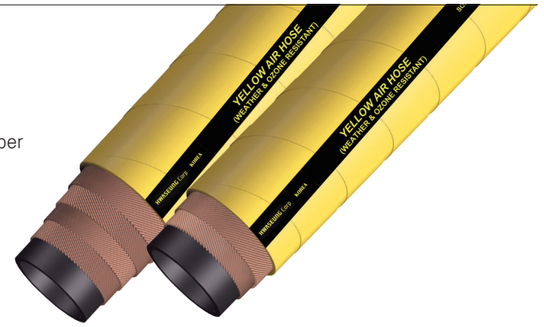
※ Branding

HWASEUNG Corp KOREA | **AIR & WATER HOSE** (WEATHER & OZONE RESISTANT) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
DA2CP												
DA2CP-132	1 1/4	31.8	1.69	42.8	10	150	40	450	13	330	0.85	0.57
DA2CP-152	1 1/2	38.1	1.93	49.1	10	150	40	450	15	380	1.00	0.67
DA2CP-172	1 3/4	44.5	2.19	55.5	10	150	40	450	18	450	1.14	0.77
DA2CP-202	2	50.8	2.45	62.2	10	150	40	450	20	500	1.33	0.89
DA2CP-252	2 1/2	63.5	3.01	76.5	7	100	28	300	25	650	1.89	1.27
DA2CP-302	3	76.2	3.51	89.2	7	100	28	300	30	750	2.24	1.51
DA2CP-352	3 1/2	88.9	4.06	103.1	5	70	20	210	35	900	2.84	1.91
DA2CP-402	4	101.6	4.59	116.6	5	70	20	210	40	1,000	3.42	2.30
DA3CP												
DA3CP-133	1 1/4	31.8	1.74	44.1	10	150	40	450	13	330	0.96	0.65
DA3CP-153	1 1/2	38.1	1.98	50.4	10	150	40	450	15	380	1.12	0.75
DA3CP-173	1 3/4	44.5	2.24	56.8	10	150	40	450	18	450	1.28	0.86
DA3CP-203	2	50.8	2.50	63.5	10	150	40	450	20	500	1.48	0.99
DA3CP-253	2 1/2	63.5	3.06	77.8	7	100	28	300	25	650	2.08	1.40
DA3CP-303	3	76.2	3.56	90.5	7	100	28	300	30	750	2.45	1.65
DA3CP-353	3 1/2	88.9	4.11	104.4	5	70	20	210	35	900	3.08	2.07
DA3CP-403	4	101.6	4.64	117.9	5	70	20	210	40	1,000	3.70	2.49
DA4CP												
DA4CP-134	1 1/4	31.8	1.79	45.4	15	150	60	450	13	330	1.06	0.71
DA4CP-154	1 1/2	38.1	2.04	51.7	15	150	60	450	15	380	1.25	0.84
DA4CP-174	1 3/4	44.5	2.29	58.1	15	150	60	450	18	450	1.42	0.95
DA4CP-204	2	50.8	2.55	64.8	15	150	60	450	20	500	1.64	1.10
DA4CP-254	2 1/2	63.5	3.11	79.1	15	100	60	300	25	650	2.27	1.53
DA4CP-304	3	76.2	3.61	91.8	10	100	40	300	30	750	2.67	1.79
DA4CP-354	3 1/2	88.9	4.16	105.7	10	70	40	210	35	900	3.33	2.24
DA4CP-404	4	101.6	4.69	119.2	10	70	40	210	40	1,000	3.98	2.67

YELLOW AIR HOSE

Excellent in hard rock mining, quarries, construction, offshore, shipyards and other rough applications.



Structure

- Tube : Black synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric
- Cover : Yellow abrasion, weather & ozone resistant synthetic rubber

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | **YELLOW AIR HOSE** (WEATHER & OZONE RESISTANT) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
YA15												
YA15-102	1	25.4	1.45	36.8	10	150	30	450	10	250	0.79	0.53
YA15-152	1 1/2	38.1	2.04	51.9	10	150	30	450	15	380	1.39	0.93
YA15-202	2	50.8	2.54	64.6	10	150	30	450	20	500	1.78	1.20
YA15-252	2 1/2	63.5	3.07	78.1	10	150	30	450	25	650	2.31	1.55
YA15-302	3	76.2	3.58	91.0	10	150	30	450	30	750	2.79	1.87
YA15-404	4	101.6	4.65	118.0	10	150	30	450	40	1,000	4.27	2.87
YA30												
YA30-102	1	25.4	1.46	37.0	20	300	60	900	10	250	0.82	0.55
YA30-152	1 1/2	38.1	2.05	52.1	20	300	60	900	15	380	1.43	0.96
YA30-202	2	50.8	2.55	64.8	20	300	60	900	20	500	1.83	1.23
YA30-254	2 1/2	63.5	3.18	80.7	20	300	60	900	25	650	2.70	1.81
YA30-304	3	76.2	3.69	93.8	20	300	60	900	30	750	3.31	2.22
YA30-404	4	101.6	4.69	119.2	20	300	60	900	40	1,000	4.29	2.88
YA40												
YA40-102	1	25.4	1.47	37.4	28	400	84	1,200	10	250	0.85	0.57
YA40-132	1 1/4	31.8	1.71	43.4	28	400	84	1,200	13	330	0.98	0.66
YA40-154	1 1/2	38.1	2.05	52.1	28	400	84	1,200	15	380	1.36	0.91
YA40-204	2	50.8	2.60	66.0	28	400	84	1,200	20	500	1.95	1.31

HOT AIR BLOWER HOSE

Specifically designed to convey hot air at+300°F continuous and +350°F intermittent from the compressor or blower on dry material unloading systems.

Structure

- **Tube :** Black heat resistant EPDM synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric with dual helix wire
- **Cover :** Brown(or Black) heat, weather & ozone resistant EPDM rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 300°F (-30℃ ~ 150℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

※ Branding

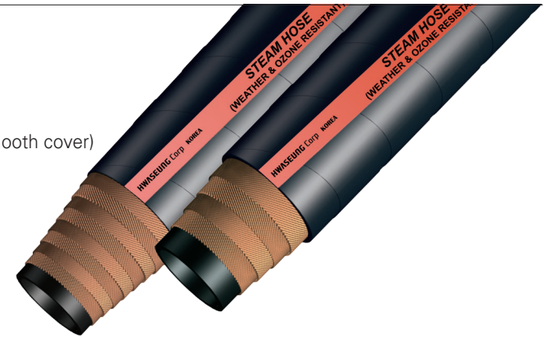
HWASEUNG Corp KOREA | **HOT AIR BLOWER HOSE** (HIGH TEMPERATURE RESISTANT) | SOFT WALL TYPE / W.P - - - PSI / TEMP. MAX. 150℃ | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
HA15BR(Brown) / HA15BK(Black)												
HA15BR/BK-152	1 1/2	38.1	2.02	51.3	10	150	40	600	10	250	1.38	0.93
HA15BR/BK-202	2	50.8	2.54	64.4	10	150	40	600	12	300	1.80	1.21
HA15BR/BK-252	2 1/2	63.5	3.04	77.1	10	150	40	600	16	400	2.19	1.47
HA15BR/BK-302	3	76.2	3.59	91.2	10	150	40	600	20	500	3.08	2.07
HA15BR/BK-402	4	101.6	4.61	117.0	10	150	40	600	28	700	4.16	2.80

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

STEAM HOSE

Used for cleaning, heat control service on shipyards, chemical plants etc.



Structure

- **Tube :** Black heat resistant EPDM synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric
- **Cover :** Black heat, weather & ozone resistant EPDM rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 410°F (-30℃ ~ 210℃)
- **Max. Length :** 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | **STEAM HOSE** (WEATHER & OZONE RESISTANT) | SOFT WALL TYPE / W.P - - - PSI / TEMP. MAX. 150℃ | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
TSH												
TSH-054	1/2	12.7	1.02	26.0	7	100	70	1,000	-	-	0.52	0.35
TSH-064	5/8	15.9	1.14	29.0	7	100	70	1,000	-	-	0.60	0.40
TSH-074	3/4	19.1	1.34	34.0	7	100	70	1,000	-	-	0.80	0.54
TSH-106	1	25.4	1.58	40.2	7	100	70	1,000	-	-	1.01	0.68
TSH-136	1 1/4	31.8	1.85	47.0	7	100	70	1,000	-	-	1.23	0.83
TSH-158	1 1/2	38.1	2.22	56.5	7	100	70	1,000	-	-	1.80	1.21
TSH-208	2	50.8	2.72	69.2	7	100	70	1,000	-	-	2.25	1.51

INSULATION HOSE

Insulation tube and cover are designed for abrasion-resistant, easy to handle. Crack-free will keep flexibility in the heat or cold.

Structure

- **Tube :** White electric resistant synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric
- **Cover :** Blue electric resistant synthetic rubber

Specification

- **Electric resistance :** 10^6 ~ $10^8\Omega$
- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Max. Length :** 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | **BLUE INSULATION HOSE** (ELECTRIC & OZONE RESISTANT) | SOFT WALL TYPE / W.P - - - PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
ERCP												
ERCP-052	1/2	12.7	0.91	23.0	10	150	40	600	-	-	0.44	0.30
ERCP-062	5/8	15.9	1.06	27.0	10	150	40	600	-	-	0.56	0.38
ERCP-072	3/4	19.1	1.18	30.0	10	150	40	600	-	-	0.65	0.44
ERCP-103	1	25.4	1.49	37.9	10	150	40	600	-	-	0.92	0.62
ERCP-133	1 1/4	31.8	1.77	44.9	10	150	40	600	-	-	1.17	0.79
ERCP-153	1 1/2	38.1	2.05	52.0	10	150	40	600	-	-	1.46	0.98
ERCP-203	2	50.8	2.66	67.5	10	150	40	600	-	-	2.31	1.55
ERCP-253	2 1/2	63.5	3.16	80.2	10	150	40	600	-	-	2.81	1.89
ERCP-303	3	76.2	3.72	94.5	10	150	40	600	-	-	3.66	2.46

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

AIR SUCTION HOSE(CUFFED END)

Used as a dedicated air & water hose in a wide range of industries and construction sites

Structure

- **Tube :** Black NR/SBR synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Black abrasion, oil, weather & ozone resistant synthetic rubber

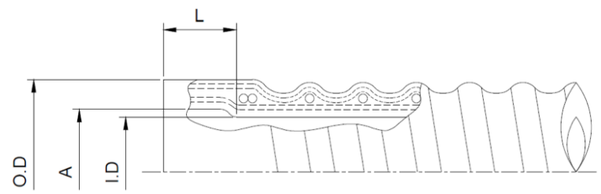
Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 20m / 66ft

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
ASCE												
ASCE-302	3	76.2	3.76	95.4	10	150	30	450	12	300	3.59	2.41
ASCE-402	4	101.6	4.76	120.8	10	150	30	450	20	500	4.64	3.12
ASCE-502	5	127.0	5.76	146.2	10	150	30	450	25	650	5.65	3.80
ASCE-602	6	152.4	6.88	174.8	10	150	30	450	36	900	7.83	5.26
ASCE-802	8	203.2	9.03	229.4	10	150	30	450	56	1,400	12.33	8.29
ASCE-102	10	254.0	11.20	284.6	10	150	30	450	70	1,800	17.49	11.75

※ Dimension of Cuffed end

Description	3"	4"	5"	6"	8"	10"
A	Ø89.1	Ø114.3	Ø139.8	Ø165.2	Ø216.3	Ø267.4
O.D	Ø104.0	Ø134.0	Ø156.4	Ø184.0	Ø237.7	Ø291.2
L	260mm					



ISO 2398/A1 AIR HOSE

Used for air transport lines such as mines, quarries, shipbuilding, and construction sites

Structure

- **Tube :** High quality synthetic rubber with high mechanical properties
- **Reinforcement :** Spiral synthetic yarn
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Color :** Black

※ Branding

HWASEUNG Corp = ISO 2398 / A1 = AIR HOSE XXXMM(XX") I.D MAX.W.P 20BAR

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius	Approx. Weight
	inch	mm	inch	mm	bar	psi	bar	psi	kg/m	lb/ft	m
ATH1B(Reinforcement layer 1B=2T/S)											
ATH1B-064	1/4	6.4	0.53	13.5	20	300	60	900	0.16	0.11	100
ATH1B-079	5/16	7.9	0.63	16.0	20	300	60	900	0.22	0.15	100
ATH1B-095	3/8	9.5	0.69	17.5	20	300	60	900	0.25	0.17	100
ATH1B-127	1/2	12.7	0.83	21.0	20	300	60	900	0.32	0.22	100
ATH1B-159	5/8	15.9	1.02	26.0	20	300	60	900	0.49	0.33	50
ATH1B-191	3/4	19.1	1.18	30.0	20	300	60	900	0.63	0.42	50
ATH1B-254	1	25.4	1.50	38.0	20	300	60	900	0.93	0.62	50
ATH2B(Reinforcement layer 2B=4T/S)											
ATH2B-064	1/4	6.4	0.55	14.0	20	300	60	900	0.18	0.12	100
ATH2B-079	5/16	7.9	0.63	16.0	20	300	60	900	0.22	0.15	100
ATH2B-095	3/8	9.5	0.73	18.5	20	300	60	900	0.33	0.22	100
ATH2B-127	1/2	12.7	0.89	22.5	20	300	60	900	0.40	0.27	100
ATH2B-159	5/8	15.9	1.08	27.5	20	300	60	900	0.59	0.40	50
ATH2B-191	3/4	19.1	1.20	30.5	20	300	60	900	0.66	0.44	50
ATH2B-254	1	25.4	1.56	39.5	20	300	60	900	1.07	0.72	50

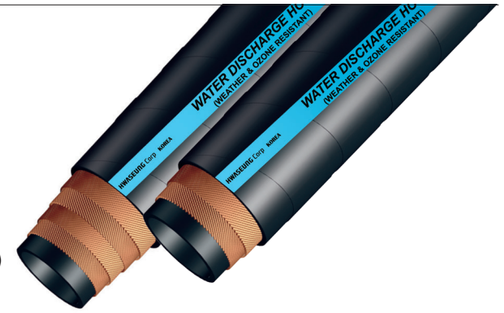
PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

WATER DISCHARGE HOSE(2PLY & 4PLY)

Used for water transport lines in overall industry and construction site

Structure

- **Tube :** Black synthetic rubber (NR/BR)
- **Reinforcement :** Spiral-plied synthetic fabric
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber



Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Max. Length :** 60m / 200ft(1"~6"), 30m / 100ft(8"~10"), 20m / 65ft(12")

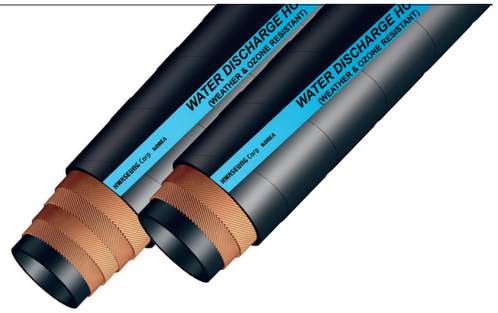
※ Branding

HWASEUNG Corp KOREA | WATER DISCHARGE HOSE (WEATHER & OZONE RESISTANT) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
WD2P (2Ply)												
WD2P-152	1 1/2	38.1	1.81	45.9	10	150	30	450	-	-	0.61	0.41
WD2P-202	2	50.8	2.31	58.6	10	150	30	450	-	-	0.78	0.52
WD2P-252	2 1/2	63.5	2.81	71.3	10	150	30	450	-	-	0.96	0.65
WD2P-302	3	76.2	3.31	84.0	10	150	30	450	-	-	1.14	0.77
WD2P-402	4	101.6	4.31	109.6	10	150	30	450	-	-	1.58	1.06
WD2P-602	6	152.4	6.35	161.2	7	100	21	300	-	-	2.57	1.73
WD2P-802	8	203.2	8.36	212.4	7	100	21	300	-	-	3.54	2.38
WD2P-1002	10	254.0	10.43	264.8	5	70	15	210	-	-	5.17	3.47
WD4P (4Ply)												
WD4P-154	1 1/2	38.1	1.91	48.5	18	250	54	750	-	-	0.84	0.56
WD4P-204	2	50.8	2.41	61.2	18	250	54	750	-	-	1.08	0.73
WD4P-254	2 1/2	63.5	2.91	73.9	18	250	54	750	-	-	1.31	0.88
WD4P-304	3	76.2	3.41	86.6	18	250	54	750	-	-	1.55	1.04
WD4P-404	4	101.6	4.43	112.4	14	200	42	600	-	-	2.10	1.41
WD4P-454	4 1/2	114.3	4.93	125.1	14	200	42	600	-	-	2.35	1.58
WD4P-504	5	127.0	5.44	138.2	14	200	42	600	-	-	2.81	1.89
WD4P-604	6	152.4	6.46	164.0	14	200	42	600	-	-	3.45	2.32
WD4P-804	8	203.2	8.47	215.2	14	200	42	600	-	-	4.71	3.16
WD4P-104	10	254.0	10.54	267.6	10	150	30	450	-	-	6.61	4.44
WD4P-124	12	304.8	12.54	318.4	10	150	30	450	-	-	7.96	5.35

WATER DISCHARGE HOSE

Used for water transport lines in overall industry and construction site



Structure

- **Tube :** Black synthetic rubber (NR/BR)
- **Reinforcement :** Spiral-plied synthetic fabric
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber

Specification

- **Electric resistance :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Max. Length :** 60m / 200ft(1"~6"), 30m / 100ft(8"~10"), 20m / 65ft(12")

※ Branding

HWASEUNG Corp KOREA | ***WATER DISCHARGE HOSE*** (WEATHER & OZONE RESISTANT) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
WD15												
WD15-102	1	25.4	1.28	32.4	10	150	30	450	10	250	0.41	0.28
WD15-132	1 1/4	31.8	1.53	38.8	10	150	30	450	13	330	0.50	0.34
WD15-152	1 1/2	38.1	1.78	45.1	10	150	30	450	15	380	0.59	0.40
WD15-202	2	50.8	2.28	57.8	10	150	30	450	20	500	0.76	0.51
WD15-252	2 1/2	63.5	2.78	70.5	10	150	30	450	25	650	0.94	0.63
WD15-302	3	76.2	3.28	83.2	10	150	30	450	30	750	1.11	0.75
WD15-352	3 1/2	88.9	3.78	95.9	10	150	30	450	35	900	1.28	0.86
WD15-402	4	101.6	4.31	109.6	10	150	30	450	40	1,000	1.74	1.17
WD15-452	4 1/2	114.3	4.81	122.3	10	150	30	450	45	1,150	1.95	1.31
WD15-504	5	127.0	5.41	137.4	10	150	30	450	50	1,300	2.70	1.81
WD15-604	6	152.4	6.41	162.8	10	150	30	450	60	1,500	3.21	2.16
WD15-804	8	203.2	8.47	215.2	10	150	30	450	80	2,000	5.10	3.43
WD15-1004	10	254.0	10.52	267.2	10	150	30	450	120	3,050	7.01	4.71
WD15-1206	12	304.8	12.71	322.8	10	150	30	450	180	4,600	11.50	7.73
WD30												
WD30-204	2	50.8	2.41	61.2	20	300	60	900	20	500	1.16	0.78
WD30-304	3	76.2	3.43	87.0	20	300	60	900	30	750	1.81	1.22
WD30-404	4	101.6	4.43	112.4	20	300	60	900	40	1,000	2.36	1.59
WD30-606	6	152.4	6.54	166.0	20	300	60	900	60	1,500	4.37	2.94

WATER SUCTION HOSE

Used for water transport lines in overall industry and construction site

Structure

- **Tube :** Black synthetic rubber (NR/BR)
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber

Specification

- **Electric resistance :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Max. Length :** 60m / 200ft(1"~6"), 30m / 100ft(8"~10"), 20m / 65ft(12")

※ Branding

HWASEUNG Corp KOREA | ***WATER SUCTION HOSE*** (WEATHER & OZONE RESISTANT) | HARD WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

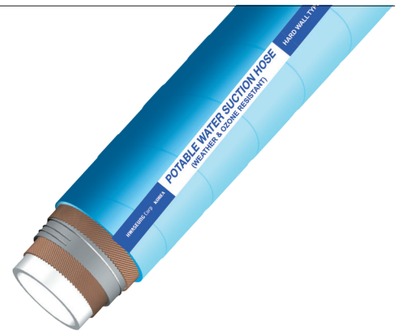
Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
WS15S												
WS15S-102	1	25.4	1.46	37.2	10	150	30	450	6	150	0.89	0.60
WS15S-132	1 1/4	31.8	1.72	43.6	10	150	30	450	8	200	1.07	0.72
WS15S-152	1 1/2	38.1	1.96	49.9	10	150	30	450	10	250	1.24	0.83
WS15S-202	2	50.8	2.46	62.6	10	150	30	450	12	300	1.59	1.07
WS15S-252	2 1/2	63.5	2.96	75.3	10	150	30	450	16	400	1.94	1.30
WS15S-302	3	76.2	3.50	89.0	10	150	30	450	20	500	2.77	1.86
WS15S-402	4	101.6	4.55	115.6	10	150	30	450	28	700	3.96	2.66
WS15S-502	5	127.0	5.67	144.1	10	150	30	450	40	1,000	7.09	4.76
WS15S-604	6	152.4	6.77	171.9	10	150	30	450	48	1,200	8.36	5.62
WS15S-804	8	203.2	8.89	225.7	10	150	30	450	64	1,600	13.01	8.74
WS15S-1004	10	254.0	11.13	282.8	10	150	30	450	80	2,000	23.89	16.05
WS15S-1204	12	304.8	13.21	335.6	10	150	30	450	110	2,750	32.05	21.54
WS30S												
WS30S-102	1	25.4	1.47	37.4	20	300	60	900	6	150	0.93	0.62
WS30S-1052	1 1/2	38.1	1.97	50.1	20	300	60	900	10	250	1.29	0.87
WS30S-202	2	50.8	2.47	62.8	20	300	60	900	12	300	1.65	1.11
WS30S-304	3	76.2	3.61	91.6	20	300	60	900	20	500	3.23	2.17
WS30S-404	4	101.6	4.62	117.4	20	300	60	900	28	700	4.38	2.94

POTABLE WATER SUCTION HOSE

Designed to handle water suitable for drinking. This hose is not NSF approved.

Structure

- **Tube :** White NR/SBR synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric with dual helix wire
- **Cover :** Blue abrasion, weather & ozone resistant synthetic rubber (Smooth cover)



Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | *POTABLE WATER SUCTION HOSE* (WEATHER & OZONE RESISTANT) | HARD WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
PWS15												
PWS15-152	1 1/2	38.1	2.03	51.5	10	150	40	600	10	250	1.51	1.01
PWS15-202	2	50.8	2.57	65.4	10	150	40	600	12	300	2.10	1.41
PWS15-252	2 1/2	63.5	3.07	78.1	10	150	40	600	16	400	2.54	1.71
PWS15-302	3	76.2	3.62	92.0	10	150	40	600	20	500	3.54	2.38
PWS15-402	4	101.6	4.62	117.4	10	150	40	600	28	700	4.60	3.09

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

POTABLE WATER DISCHARGE HOSE

Designed to handle water suitable for drinking. This hose is not NSF approved. Used in discharge service only.

Structure

- **Tube :** White NR/SBR synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric
- **Cover :** Blue abrasion, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Max. Length :** 60m / 200ft

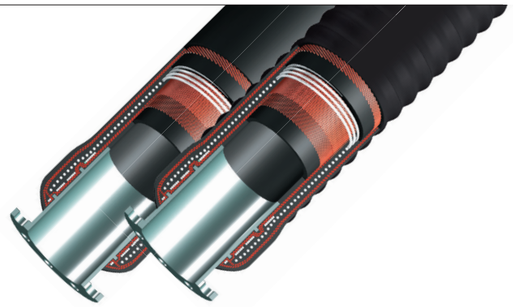
※ Branding

HWASEUNG Corp KOREA | *POTABLE WATER DISCHARGE* (WEATHER & OZONE RESISTANT) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
PWD15												
PWD15-252	2 1/2	63.5	3.05	77.5	10	150	40	600	25	650	2.11	1.42
PWD15-304	3	76.2	3.65	92.6	10	150	40	600	30	750	2.86	1.92
PWD15-404	4	101.6	4.65	118.0	10	150	40	600	40	1,000	3.71	2.49

WATER SUC. & DIS. WITH FLANGE

WBL designed to handle water on the various industrial area.



Structure

- **Tube :** Black NR/SBR rubber (Lining type or Non lining type)
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 20m / 66ft

※ Branding

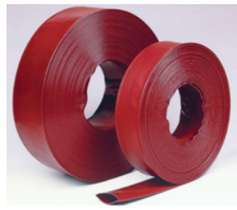
Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
WBLS												※ Smooth Cover,Approx. Weight : Hose body only
WBLS-13	1 1/4	31.8	1.93	49.0	15	225	60	900	7	180	1.45	0.97
WBLS-15	1 1/2	38.1	2.17	55.0	15	225	60	900	9	230	1.69	1.14
WBLS-20	2	50.8	2.72	69.0	15	225	60	900	14	350	2.47	1.66
WBLS-25	2 1/2	63.5	3.23	82.0	15	225	60	900	16	400	2.97	2.00
WBLS-30	3	76.2	3.82	97.0	15	225	60	900	18	450	4.12	2.77
WBLS-40	4	101.6	5.00	127.0	15	225	60	900	24	600	8.51	5.72
WBLS-50	5	127.0	6.02	153.0	15	225	60	900	30	750	10.33	6.94
WBLS-60	6	152.4	7.13	181.0	15	225	60	900	34	850	14.08	9.46
WBLS-80	8	203.2	9.37	238.0	15	225	60	900	44	1,100	21.33	14.33
WBLS-100	10	254.0	11.54	293.0	15	225	60	900	54	1,350	30.71	20.64
WBLS-120	12	304.8	13.70	348.0	15	225	60	900	64	1,600	39.66	26.65
WBLC												WBLC※ Corrugated Cover,Approx. Weight : Hose body only
WBLC-13	1 1/4	31.8	2.05	52.0	15	225	60	900	5	130	1.31	0.88
WBLC-15	1 1/2	38.1	2.28	58.0	15	225	60	900	6	150	1.57	1.05
WBLC-20	2	50.8	2.87	73.0	15	225	60	900	8	200	2.29	1.54
WBLC-25	2 1/2	63.5	3.39	86.0	15	225	60	900	10	250	2.76	1.85
WBLC-30	3	76.2	4.02	102.0	15	225	60	900	12	300	3.65	2.45
WBLC-40	4	101.6	5.24	133.0	15	225	60	900	16	400	6.33	4.25
WBLC-50	5	127.0	6.42	163.0	15	225	60	900	20	500	7.72	5.19
WBLC-60	6	152.4	7.60	193.0	15	225	60	900	30	750	10.55	7.09
WBLC-80	8	203.2	9.92	252.0	15	225	60	900	40	1,000	16.73	11.24
WBLC-100	10	254.0	12.20	310.0	15	225	60	900	50	1,300	23.72	15.94
WBLC-120	12	304.8	14.49	368.0	15	225	60	900	60	1,500	31.34	21.06

PVC LAY-FLAT HOSE

Smooth tube inside, low resistance for fluid transfer / high flexibility and light weight for easy handling

Structure

- Extraction of internal and external surfaces of PVC at the same time
- **Reinforcement :** Three layers of polyester



※ Branding

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight
	inch	mm	inch	mm	bar	psi	bar	psi	kg/m	lb/ft	m
PVCH (Red)											
PVCH-15	1 1/2	40	1.71	43.4	7.0	100	21	300	0.30	0.20	100
PVCH-20	2	52	2.18	55.4	7.0	100	21	300	0.36	0.24	100
PVCH-25	2 1/2	65	2.70	68.6	7.0	100	21	300	0.48	0.32	100
PVCH-30	3	77	3.18	80.8	6.0	85	18	255	0.65	0.44	100
PVCH-40	4	103	4.21	107.0	6.0	85	18	255	0.90	0.60	100
PVCH-50	5	128	5.20	132.2	5.0	70	15	210	1.05	0.71	100
PVCH-60	6	153	6.20	157.4	5.0	70	15	210	1.30	0.87	100
PVCH-80	8	207	8.35	212.0	5.0	70	15	210	2.00	1.34	100
PVCM (Blue)											
PVCM-15	1 1/2	40	1.69	42.9	5.0	100	15	300	0.21	0.14	100
PVCM-20	2	52	2.16	54.9	4.5	100	14	300	0.27	0.18	100
PVCM-25	2 1/2	65	2.67	67.9	4.0	100	12	300	0.36	0.24	100
PVCM-30	3	77	3.15	80.0	4.0	85	12	255	0.44	0.30	100
PVCM-40	4	103	4.18	106.1	4.0	85	12	255	0.58	0.39	100
PVCM-50	5	128	5.18	131.5	3.0	70	9	210	0.90	0.60	100
PVCM-60	6	153	6.17	156.6	2.5	70	8	210	1.04	0.70	100
PVCM-80	8	207	8.33	211.6	2.0	70	6	210	1.65	1.11	100
PVCL (Blue)											
PVCL-15	1 1/2	40	1.67	42.4	4.0	60	12	180	0.18	0.12	100
PVCL-20	2	52	2.14	54.4	4.0	60	12	180	0.24	0.16	100
PVCL-25	2 1/2	65	2.66	67.6	3.5	50	11	150	0.32	0.22	100
PVCL-30	3	77	3.14	79.7	3.0	40	9	120	0.38	0.26	100
PVCL-40	4	103	4.16	105.7	3.0	40	9	120	0.50	0.34	100
PVCL-50	5	128	5.17	131.2	2.5	35	8	105	0.75	0.50	100
PVCL-60	6	153	6.15	156.2	2.0	30	6	90	0.90	0.60	100

MATERIAL HOSE

SAND & GRIT BLAST HOSE

Used for cleaning of steel, stone and tile surfaces or sand blasting to remove polishing.

Structure

- **Tube :** Black abrasion resistant synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric
- **Cover :** Black, Red, Yellow, Green abrasion, weather & ozone resistant synthetic rubber

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **DIN Abrasion Rate :** Max. 80mm^3
- **Max. Length :** 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | SAND & GRIT BLAST HOSE (HIGH ABRASION RESISTANT) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE. DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
SBCHP												
SBCHP-074	3/4	19.1	1.44	36.5	10	150	40	600	-	-	1.04	0.70
SBCHP-104	1	25.4	1.68	42.6	10	150	40	600	-	-	1.15	0.77
SBCHP-134	1 1/4	31.8	1.94	49.4	10	150	40	600	-	-	1.41	0.95
SBCHP-154	1 1/2	38.1	2.19	55.7	7	100	28	400	-	-	1.62	1.09
SBCHP-204	2	50.8	2.74	69.6	7	100	28	400	-	-	2.22	1.49
SBCP												
SBCP-132(Handle)	1 1/4	31.8	1.75	44.4	10	150	40	600	-	-	0.88	0.59
SBCP-134	1 1/4	31.8	2.06	52.2	10	150	40	600	-	-	1.60	1.08
SBCP-252	2 1/2	63.5	3.30	83.7	7	100	28	400	-	-	2.90	1.95
SBCP-305	3	76.2	4.28	108.7	7	100	28	400	-	-	5.80	3.90
SBCHP												
SBHCP-132(Handle)	1 1/4	31.8	1.72	43.8	20	300	80	1,200	-	-	0.85	0.57
SBHCP-132-1	1 1/4	31.8	2.04	51.8	20	300	80	1,200	-	-	1.53	1.03

SUPER SAND & GRIT BLAST HOSE

Used for cleaning of steel, stone and tile surfaces or sand blasting to remove polishing.

Structure

- **Tube :** Black abrasion resistant synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **DIN Abrasion Rate :** Max. 50mm^3
- **Max. Length :** 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | SUPER SAND & GRIT BLAST HOSE (HIGH ABRASION RESISTANT) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
SSGB												
SSGB-132-1	1 1/4	31.8	1.73	44.0	20	300	80	1,200	-	-	0.85	0.57
SSGB-132-2	1 1/4	31.8	1.89	48.0	10	150	40	600	-	-	1.18	0.79

※ Rubber Properties

Sortation		Unit	Inner tube specification
Basic Properties (500 ±25mm / min) KS M 6518	Hardness(Shore-A)	Hs	65 ±5
	Tensile Strength	kgf/cm2	Min. 150
	Extension Rate	%	Min. 350
Abrasion Rate		mm3	35 ~ 45

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

SAND & GRIT SUCTION HOSE

Used for suction and discharge where steel, stone, cement and abrasive are transported at high speed

Structure

- **Tube :** Black abrasion resistant synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber (Smooth cover)

Applications and temperature range

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **DIN Abrasion Rate :** Max. 150mm^3
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | SAND & GRIT BLAST HOSE (HIGH ABRASION RESISTANT) | HARD WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
SS15												
SS15-132	1 1/4	31.8	1.98	50.4	10	150	40	600	8	200	1.71	1.15
SS15-152	1 1/2	38.1	2.23	56.7	10	150	40	600	10	250	1.97	1.32
SS15-202	2	50.8	2.73	69.4	10	150	40	600	12	300	2.49	1.67
SS15-232	2 1/4	57.2	2.98	75.8	10	150	40	600	14	350	2.75	1.85
SS15-252	2 1/2	63.5	3.28	83.3	10	150	40	600	16	400	3.18	2.14
SS15-304	3	76.2	3.95	100.4	10	150	40	600	20	500	4.77	3.21
SS15-404	4	101.6	5.02	127.4	10	150	40	600	28	700	6.54	4.39
SS15-504	5	127.0	6.06	153.9	10	150	40	600	40	1,000	8.46	5.68

SHOT BLAST HOSE

Used for cleaning of steel, stone and tile surfaces or sand blasting to remove polishing

제품 구조

- Tube : Black abrasion resistant synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric
- Cover : Black abrasion, weather & ozone resistant synthetic rubber

제품 정보

- Temperature : -30°C ~ 80°C (-20°F ~ 180°F)
- DIN Abrasion Rate : Max. 150mm^3
- Max. Length : 60m / 200ft

※ 브랜딩

HWASEUNG Corp KOREA | SHOT BLAST HOSE (HIGH ABRASION RESISTANT) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
SB2P												※ 보강층 : 2Ply
SB2P-102	1	25.4	1.70	43.2	10	150	40	600	-	-	1.14	0.77
SB2P-132	1 1/4	31.8	1.95	49.6	10	150	40	600	-	-	1.35	0.91
SB2P-152	1 1/2	38.1	2.20	55.9	10	150	40	600	-	-	1.56	1.05
SB2P-172	1 3/4	44.5	2.45	62.3	10	150	40	600	-	-	1.77	1.19
SB2P-202	2	50.8	2.70	68.6	10	150	40	600	-	-	1.98	1.33
SB2P-252	2 1/2	63.5	3.25	82.5	7	100	28	400	-	-	2.57	1.73
SB2P-302	3	76.2	3.75	95.2	7	100	28	400	-	-	3.02	2.03
SB4P												※ 보강층 : 4Ply
SB4P-104	1	25.4	1.80	45.8	10	150	40	600	-	-	1.37	0.92
SB4P-134	1 1/4	31.8	2.06	52.2	10	150	40	600	-	-	1.60	1.08
SB4P-154	1 1/2	38.1	2.30	58.5	10	150	40	600	-	-	1.84	1.24
SB4P-174	1 3/4	44.5	2.56	64.9	10	150	40	600	-	-	2.08	1.40
SB4P-404	2	50.8	2.80	71.2	10	150	40	600	-	-	2.32	1.56
SB4P-454	2 1/2	63.5	3.35	85.1	10	150	40	600	-	-	2.98	2.00
SB4P-304	3	76.2	3.85	97.8	10	150	40	600	-	-	3.48	2.34

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

CONCRETE DOCKING HOSE

Mounted at the end of the pump car pipe to transport cement, gravel, and sand at the construction site

Structure

- Tube : Black abrasion resistant synthetic rubber
- Reinforcement : Spiral-plied steel wire (4W/S)
- Cover : Black abrasion, weather & ozone resistant synthetic rubber

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- DIN Abrasion Rate : 100 ~ 110mm^3
- Length : 3m, 3,5m, 4m

※ Branding

HWASEUNG Corp KOREA | FR CONCRETE DOCKING HOSE (HIGH ABRASION RESISTANT) | W.P 100BAR(1500 PSI) S.F. 2 : 1

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
CCDK												
CCDK-404	4	101.6	5.12	130.0	100	1,400	200	2,800	13	320	8.13	5.46
CCDK-504	5	127.0	6.10	155.0	100	1,400	200	2,800	15	360	11.33	7.61

MATERIAL SUCTION HOSE

Used for transfer of materials such as cement, sand, gravel and slurry

Structure

- Tube : Black abrasion resistant synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric with helix wire
- Cover : Black abrasion, weather & ozone resistant synthetic rubber

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- DIN Abrasion Rate : Max. 150mm^3
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | **MATERIAL SUCTION HOSE** (HIGH ABRASION RESISTANT) | HARD WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
MSHS (Smooth cover)												
MSHS-102	1	25.4	1.73	44.0	10	150	40	600	6	150	1.42	0.95
MSHS-132	1 1/4	31.8	1.98	50.4	10	150	40	600	8	200	1.67	1.12
MSHS-152	1 1/2	38.1	2.23	56.7	10	150	40	600	10	250	1.92	1.29
MSHS-202	2	50.8	2.80	71.0	10	150	40	600	12	300	2.64	1.77
MSHS-252	2 1/2	63.5	3.30	83.7	10	150	40	600	16	400	3.19	2.14
MSHS-302	3	76.2	3.84	97.6	10	150	40	600	20	500	4.26	2.86
MSHS-404	4	101.6	5.08	129.0	10	150	40	600	28	700	6.88	4.62
MSHS-504	5	127.0	6.18	156.9	10	150	40	600	40	1,000	10.01	6.73
MSHS-604	6	152.4	7.19	182.7	10	150	40	600	48	1,200	11.20	7.53
MSHS-804	8	203.2	9.33	236.9	10	150	40	600	64	1,600	16.62	11.17
MSHS-1004	10	254.0	11.66	296.2	10	150	40	600	80	2,000	28.81	19.36
MSHS-1204	12	304.8	13.82	351.0	10	150	40	600	110	2,750	36.42	24.47
MSHC (Corrugated cover)												
MSHC-152	1 1/2	38.1	2.25	57.1	10	150	40	600	6	150	1.77	1.19
MSHC-202	2	50.8	2.81	71.4	10	150	40	600	8	200	2.45	1.65
MSHC-252	2 1/2	63.5	3.31	84.1	10	150	40	600	10	250	2.96	1.99
MSHC-302	3	76.2	3.86	98.0	10	150	40	600	12	300	3.75	2.52
MSHC-404	4	101.6	5.09	129.4	10	150	40	600	20	500	6.20	4.17
MSHC-504	5	127.0	6.21	157.8	10	150	40	600	25	650	8.63	5.80
MSHC-604	6	152.4	7.23	183.6	10	150	40	600	36	900	10.08	6.77
MSHC-804	8	203.2	9.36	237.8	10	150	40	600	56	1,400	14.95	10.05
MSHC-1004	10	254.0	11.72	297.6	10	150	40	600	70	1,800	23.65	15.89
MSHC-1204	12	304.8	13.87	352.4	10	150	40	600	84	2,150	30.30	20.36

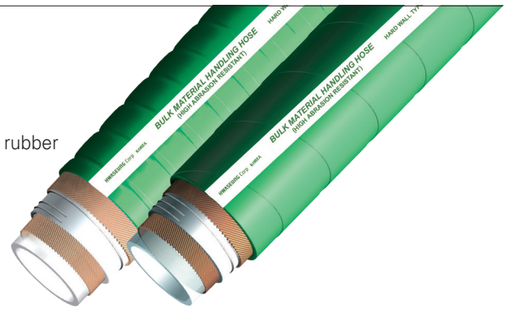
PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

BULK MATERIAL HANDLING HOSE

Used for foodstuffs, flour, tablets etc. Tube meets FDA requirements for food and potable water.

Structure

- Tube : White natual gum rubber
- Reinforcement : Spiral-plied synthetic fabric with helix wire
- Cover : Green abrasion, weather & ozone resistant NR/SBR synthetic rubber



Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft(1"~6"), 30m / 100ft(8"), 20m / 65ft(10"~12")

※ Branding

HWASEUNG Corp KOREA | **BULK MATERIAL HANDLING HOSE** (HIGH ABRASION RESISTANT) | HARD WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
BMHS (Smooth cover)												
BMHS-102	1	25.4	1.89	48.0	14	200	56	800	6	150	1.88	1.26
BMHS-132	1 1/4	31.8	2.14	54.4	14	200	56	800	8	200	2.19	1.47
BMHS-152	1 1/2	38.1	2.39	60.7	14	200	56	800	10	250	2.50	1.68
BMHS-202	2	50.8	2.93	74.4	10	150	40	600	12	300	3.50	2.35
BMHS-252	2 1/2	63.5	3.43	87.1	10	150	40	600	16	400	4.18	2.81
BMHS-302	3	76.2	3.96	100.6	10	150	40	600	20	500	5.05	3.39
BMHS-402	4	101.6	5.00	127.1	7	100	28	400	28	700	7.64	5.13
BMHC (Corrugated cover)												
BMHC-502	5	127.0	6.09	154.6	5	75	20	300	25	650	8.27	5.56
BMHC-602	6	152.4	7.10	180.4	5	75	20	300	36	900	9.88	6.64
BMHC-802	8	203.2	9.36	237.8	3	50	12	200	56	1,400	15.91	10.69
BMHC-1002	10	254.0	11.49	291.8	3	50	12	200	70	1,800	21.74	14.61
BMHC-1202	12	304.8	13.57	344.8	3	50	12	200	84	2,150	27.09	18.20

DRY CEMENT DISCHARGE HOSE

Used in the transfer of dry materials, slurries and ideal for dry cement, pebble, lime and other abrasive materials.

Structure

- Tube : Black abrasion resistant synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric
- Cover : Black abrasion, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- DIN Abrasion Rate : Max. 150mm^3
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | *DRY CEMENT DISCHARGE HOSE* (HIGH ABRASION RESISTANT) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
DC7548(Tube thickness : 4.8mm)												
DC7548-302	3	76.2	3.64	92.4	5	75	20	300	30	750	2.50	1.68
DC7548-402	4	101.6	4.64	117.8	5	75	20	300	40	1,000	3.25	2.18
DC7548-502	5	127.0	5.64	143.2	5	75	20	300	50	1,300	3.99	2.68
DC7548-602	6	152.4	6.65	168.8	5	75	20	300	60	1,500	4.87	3.27
DC7564(Tube thickness : 6.4mm)												
DC7564-302	3	76.2	3.76	95.6	5	75	20	300	30	750	3.05	2.05
DC7564-402	4	101.6	4.76	121.0	5	75	20	300	40	1,000	3.94	2.65
DC7564-502	5	127.0	5.76	146.4	5	75	20	300	50	1,300	4.84	3.25
DC7564-602	6	152.4	6.77	172.0	5	75	20	300	60	1,500	5.87	3.94
DC15048(Tube thickness : 4.8mm)												
DC15048-302	3	76.2	3.65	92.6	10	150	40	600	30	750	2.57	1.73
DC15048-404	4	101.6	4.76	120.8	10	150	40	600	40	1,000	3.90	2.62
DC15048-504	5	127.0	5.77	146.6	10	150	40	600	50	1,300	4.89	3.29
DC15048-604	6	152.4	6.79	172.4	10	150	40	600	60	1,500	6.05	4.07
DC15064(Tube thickness : 6.4mm)												
DC15064-302	3	76.2	3.77	95.8	10	150	40	600	30	750	3.12	2.10
DC15064-404	4	101.6	4.88	124.0	10	150	40	600	40	1,000	4.61	3.10
DC15064-504	5	127.0	5.90	149.8	10	150	40	600	50	1,300	5.75	3.86
DC15064-604	6	152.4	6.91	175.6	10	150	40	600	60	1,500	7.07	4.75

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

DRY CEMENT SUCTION HOSE

Used in the transfer of dry materials, slurries and ideal for dry cement, pebble, lime and other abrasive materials.

Structure

- Tube : Black abrasion resistant synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric with helix wire
- Cover : Black abrasion, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- DIN Abrasion Rate : Max. 150mm^3
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | *DRY CEMENT SUCTION HOSE* (HIGH ABRASION RESISTANT) | HARD WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
DCS30(Tube thickness : 4.8mm)												
DCS30-304	2	50.8	2.90	73.6	20	300	60	900	12	300	2.94	1.98
DCS30-304	3	76.2	3.95	100.4	20	300	60	900	20	500	4.73	3.18
DCS30-404	4	101.6	4.97	126.2	20	300	60	900	28	700	6.21	4.17
DCS30-504	5	127.0	6.04	153.5	20	300	60	900	40	1,000	8.35	5.61

DRY CEMENT SUCTION HOSE(CUFFED END)

Used in the transfer of dry materials, slurries and ideal for dry cement, pebble, lime and other abrasive materials.

Structure

- **Tube :** Black abrasion resistant synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber (Corrugated cover)

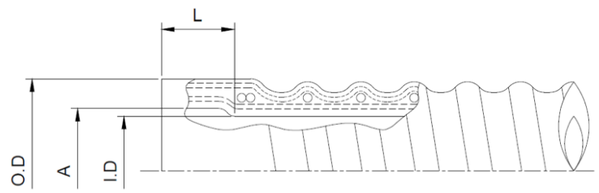
Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **DIN Abrasion Rate :** Max. 150mm^3
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 20m / 65ft

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
DCCE												
DCCE-604	6	152.4	7.30	185.4	10	150	40	600	36	900	12.13	8.15

※ Dimension of Cuffed end

Description	I.D	A	O.D	L	Remark
6"	Ø152.4	Ø165.2	Ø196.0	230mm	-



CERAMIC DISCHARGE HOSE

Designed for metal castings, steel, stone and wherever abrasive products transfer discharge service.

Structure

- **Tube :** Black abrasion resistant NR/SBR synthetic rubber and ceramic ball
- **Reinforcement :** Spiral-plied synthetic fabric
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Max. Length :** 20m / 65ft

※ Branding

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
CEMD												
CEMD-132	1 1/4	31.8	2.18	55.4	10	150	40	600	-	-	2.60	1.75
CEMD-152	1 1/2	38.1	2.43	61.7	10	150	40	600	-	-	3.30	2.22
CEMD-202	2	50.8	2.97	75.4	10	150	40	600	-	-	4.70	3.16
CEMD-252	2 1/2	63.5	3.47	88.1	10	150	40	600	-	-	5.60	3.76
CEMD-302	3	76.2	4.01	101.8	10	150	40	600	-	-	6.60	4.43
CEMD-404	4	101.6	5.06	128.6	10	150	40	600	-	-	8.70	5.85

CERAMIC SUCTION HOSE

Designed for metal castings, steel, stone and wherever abrasive products transfer suction & discharge service.

Structure

- **Tube :** Black abrasion resistant NR/SBR synthetic rubber and ceramic ball
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Black abrasion, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 20m / 65ft

※ Branding

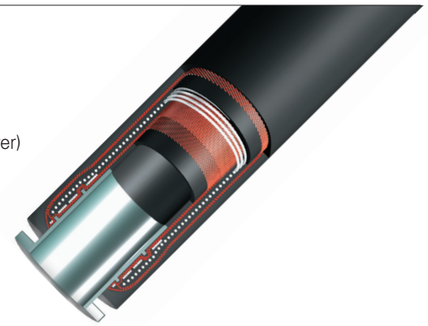
HWASEUNG Corp KOREA | CERAMIC HARDWALL HOSE | MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
CEMS												
CEMS-152	1 1/2	38.1	2.56	65.0	10	150	40	600	12	300	4.00	2.69
CEMS-202	2	50.8	3.15	80.0	10	150	40	600	16	400	5.60	3.76
CEMS-252	2 1/2	63.5	3.58	91.0	10	150	40	600	20	500	6.90	4.64
CEMS-302	3	76.2	4.09	104.0	10	150	40	600	24	600	8.00	5.38
CEMS-404	4	101.6	5.28	134.0	10	150	40	600	32	800	10.20	6.85

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

MUD SUCTION & DISCHARGE WITH FLANGE

Mud suction hose designed to handle mud on the construction area.



Structure

- **Tube :** Black abrasion resistant NR/SBR synthetic rubber
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Black abrasion, oil, weather & ozone resistant synthetic rubber (Smooth cover)

Specification

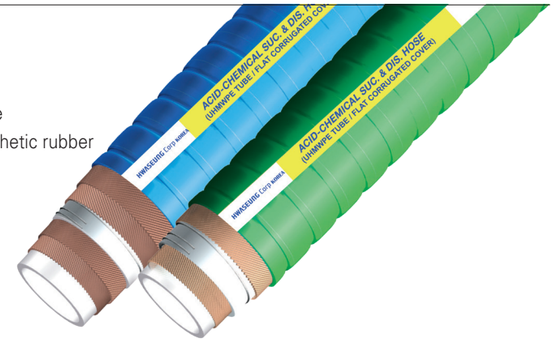
- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 20m / 65ft

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
MUDS ※ Weight : Hose body only												
MUDS-60	6	152.4	8.39	213.0	7	100	28	400	34	300	20.65	13.88
MUDS-80	8	203.2	9.84	250.0	7	100	28	400	44	800	26.88	18.06

CHEMICAL HOSE

UHMW CHEMICAL HOSE

Designed to handle 98% of all chemicals, solvents and corrosive liquids in both pressure and suction sertice.



Structure

- **Tube :** Ultra high molecular weight polyethylene (UHMW)
- **Reinforcement :** Spiral-plied synthetic fabric with dual helix wire
- **Cover :** Green (or light blue) weather & ozone resistant EPDM synthetic rubber (Flat-corrugated cover)

Specification

- **Temperature :** -40°F ~ 150°F (-40℃ ~ 65℃)
- **Vacuum :** 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | ACID-CHEMICAL SUC. & DIS. HOSE (UHMWPE TUBE / FLAT CORRUGATED COVER) | MAX. W.P *** PSI / MAX. TEMP. 65℃ | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
UHMW												
UHMW-102	1	25.4	1.49	37.8	14	200	56	800	4	100	0.88	0.59
UHMW-132	1 1/4	31.8	1.74	44.2	14	200	56	800	5	130	1.04	0.70
UHMW-152	1 1/2	38.1	1.99	50.5	14	200	56	800	6	150	1.23	0.83
UHMW-202	2	50.8	2.55	64.8	14	200	56	800	8	200	1.89	1.27
UHMW-252	2 1/2	63.5	3.05	77.5	14	200	56	800	10	250	2.30	1.55
UHMW-302	3	76.2	3.66	93.0	14	200	56	800	12	300	3.16	2.12
UHMW-404	4	101.6	4.77	121.2	14	200	56	800	16	400	4.75	3.19
UHMW-604	6	152.4	6.91	175.6	14	200	56	800	30	750	8.41	5.65

※ CAUTION

Consult the chemical resistance chart and safety warning for each application. It is advisable to test the tube material under actual service conditions prior to initial use.

XLPE CHEMICAL HOSE

Designed to handle 98% of all chemicals, solvents and corrosive liquids in both pressure and suction sertice.

Structure

- ■Tube : Cross-linked polyethylene (XLPE)
- ■Reinforcement : Spiral-plied synthetic fabric with dual helix wire
- ■Cover : Green weather & ozone resistant EPDM synthetic rubber

Specification

- ■Temperature : -40°F ~ 150°F (-40℃ ~ 65℃)
- ■Vacuum : 737mmHg / 29inHg
- ■Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | ACID-CHEMICAL SUC. & DIS. HOSE (XLPE TUBE / SMOOTH COVER) | MAX. W.P. *** PSI / MAX. TEMP. 65℃ | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
XLPS (Smooth cover)												
XLPS-102	1	25.4	1.50	38.0	14	200	56	800	6	150	1.05	0.71
XLPS-132	1 1/4	31.8	1.75	44.4	14	200	56	800	8	200	1.24	0.83
XLPS-152	1 1/2	38.1	2.00	50.7	14	200	56	800	10	250	1.44	0.97
XLPS-202	2	50.8	2.51	63.8	14	200	56	800	12	300	1.89	1.27
XLPS-252	2 1/2	63.5	3.01	76.5	14	200	56	800	16	400	2.28	1.53
XLPS-302	3	76.2	3.56	90.4	14	200	56	800	20	500	3.26	2.19
XLPS-402	4	101.6	4.60	116.9	14	200	56	800	28	700	4.66	3.13
XLPF (Flat-corrugated cover)												
XLPF-102	1	25.4	1.55	39.4	14	200	56	800	4	100	0.95	0.64
XLPF-132	1 1/4	31.8	1.80	45.8	14	200	56	800	5	130	1.13	0.76
XLPF-152	1 1/2	38.1	2.05	52.1	14	200	56	800	6	150	1.32	0.89
XLPF-202	2	50.8	2.60	66.0	14	200	56	800	8	200	1.92	1.29
XLPF-252	2 1/2	63.5	3.11	79.1	14	200	56	800	10	250	2.43	1.63
XLPF-302	3	76.2	3.72	94.6	14	200	56	800	12	300	3.30	2.22
XLPF-402	4	101.6	4.74	120.4	14	200	56	800	16	400	4.38	2.94

※ CAUTION

Consult the chemical resistance chart and safety warning for each application. It is advisable to test the tube material under actual service conditions prior to initial use.

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

CHEMICAL EPDM SUCTION HOSE

Designed to handle 98% of all chemicals, solvents and corrosive liquids in both pressure and suction sertice.

Structure

- ■Tube : High quality EPDM synthetic rubber
- ■Reinforcement : Spiral-plied synthetic fabric with helix wire
- ■Cover : Black weather & ozone resistant EPDM synthetic rubber (Smooth cover)

Specification

- ■Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- ■Vacuum : 737mmHg / 29inHg
- ■Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | CHEMICAL EPDM SUCTION HOSE (HIGH CHEMICAL RESISTANT) | HARD WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

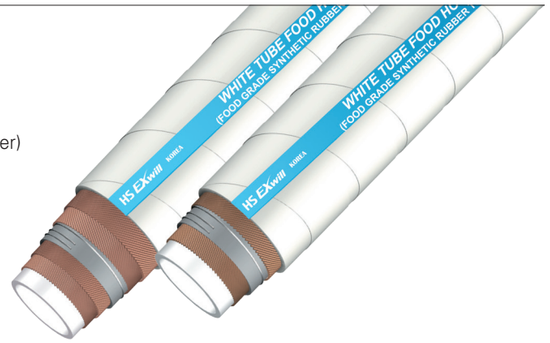
Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
CEPS												
CEPS-102	1	25.4	1.44	36.6	16	230	64	920	6	150	0.89	0.60
CEPS-132	1 1/4	31.8	1.69	43.0	16	230	64	920	8	200	1.07	0.72
CEPS-152	1 1/2	38.1	1.97	50.1	16	230	64	920	10	250	1.33	0.89
CEPS-202	2	50.8	2.49	63.2	16	230	64	920	12	300	1.83	1.23
CEPS-252	2 1/2	63.5	2.99	75.9	16	230	64	920	16	400	2.23	1.50
CEPS-302	3	76.2	3.51	89.2	16	230	64	920	20	500	2.94	1.98
CEPS-404	4	101.6	4.64	117.8	16	230	64	920	28	700	4.56	3.06

※ CAUTION

Consult the chemical resistance chart and safety warning for each application. It is advisable to test the tube material under actual service conditions prior to initial use.

WHITE TUBE FOOD SUCTION HOSE

Tube and cover designed for suction, discharge of food and potable water. Highly resistant to animal fat and vegetable oils.



Structure

- Tube : White food grade synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric with dual helix wire
- Cover : White (or gray) food grade synthetic rubber (Smooth cover)

Specification

- Temperature : 20°F ~ 160°F (-30℃ ~ 70℃)
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft

※ Branding

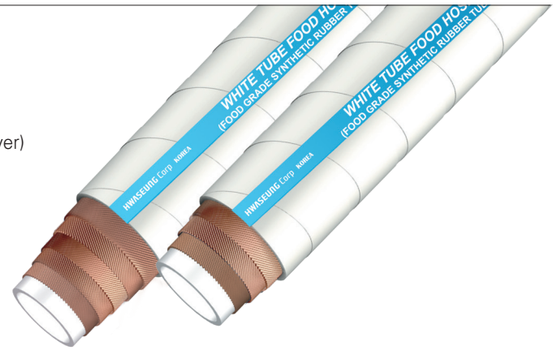
HWASEUNG Corp KOREA | WHITE TUBE FOOD HOSE (FOOD GRADE SYNTHETIC RUBBER TUBE) | HARD WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
WTFS												
WTFS-102	1	25.4	1.53	38.8	10	150	40	600	6	150	1.23	0.83
WTFS-132	1 1/4	31.8	1.78	45.2	10	150	40	600	8	200	1.47	0.99
WTFS-152	1 1/2	38.1	2.03	51.5	10	150	40	600	10	250	1.70	1.14
WTFS-202	2	50.8	2.56	65.0	10	150	40	600	12	300	2.30	1.55
WTFS-252	2 1/2	63.5	3.06	77.7	10	150	40	600	16	400	2.78	1.87
WTFS-302	3	76.2	3.61	91.8	10	150	40	600	20	500	3.91	2.63
WTFS-404	4	101.6	4.70	119.4	10	150	40	600	28	700	5.71	3.84
WTFS-504	5	127.0	5.85	148.7	10	150	40	600	40	1,000	8.46	5.68

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

WHITE TUBE FOOD DISCHARGE HOSE

Tube and cover designed for discharge of food and potable water. Highly resistant to animal fat and vegetable oils.



Structure

- Tube : White food grade synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric
- Cover : White (or gray) food grade synthetic rubber (Smooth cover)

Specification

- Temperature : -20°F ~ 160°F (-30℃ ~ 70℃)
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | WHITE TUBE FOOD HOSE (FOOD GRADE SYNTHETIC RUBBER TUBE) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
WTFD												
WTFD-102	1	25.4	1.46	37.0	10	150	40	600	-	-	0.78	0.52
WTFD-132	1 1/4	31.8	1.71	43.4	10	150	40	600	-	-	0.92	0.62
WTFD-152	1 1/2	38.1	1.96	49.7	10	150	40	600	-	-	1.08	0.73
WTFD-202	2	50.8	2.46	62.4	10	150	40	600	-	-	1.38	0.93
WTFD-252	2 1/2	63.5	2.99	75.9	10	150	40	600	-	-	1.85	1.24
WTFD-302	3	76.2	3.49	88.6	10	150	40	600	-	-	2.18	1.46
WTFD-404	4	101.6	4.69	119.2	10	150	40	600	-	-	4.02	2.70
WTFD-504	5	127.0	5.76	146.2	10	150	40	600	-	-	5.53	3.72

RED TUBE
WINE LINE FOOD SUCTION HOSE

Used for transfer of wine from aging tanks to trucks.

Structure

- Tube : Red food grade synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric with dual helix wire
- Cover : Red food grade synthetic rubber (Smooth cover)

Specification

- Temperature : -20°F ~ 160°F (-30℃ ~ 70℃)
- Vacuum : 737mmHg / 29inHg
- Max. Length : 60m / 200ft

※ Branding

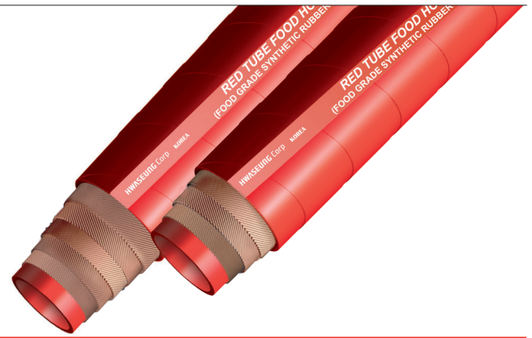
HWASEUNG Corp KOREA | RED TUBE FOOD HOSE (FOOD GRADE SYNTHETIC RUBBER TUBE) | HARD WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
RTFS												
RTFS-102	1	25.4	1.53	38.8	10	150	40	600	6	150	1.23	0.83
RTFS-132	1 1/4	31.8	1.78	45.2	10	150	40	600	8	200	1.47	0.99
RTFS-152	1 1/2	38.1	2.03	51.5	10	150	40	600	10	250	1.70	1.14
RTFS-202	2	50.8	2.56	65.0	10	150	40	600	12	300	2.30	1.55
RTFS-252	2 1/2	63.5	3.06	77.7	10	150	40	600	16	400	2.78	1.87
RTFS-302	3	76.2	3.61	91.8	10	150	40	600	20	500	3.91	2.63
RTFS-404	4	101.6	4.70	119.4	10	150	40	600	28	700	5.71	3.84
RTFS-504	5	127.0	5.85	148.7	10	150	40	600	40	1,000	8.46	5.68

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

RED TUBE
WINE LINE FOOD DISCHARGE HOSE

Used for discharge of wine.



Structure

- Tube : Red food grade synthetic rubber
- Reinforcement : Spiral-plied synthetic fabric
- Cover : Red food grade synthetic rubber (Smooth cover)

Specification

- Temperature : -20°F ~ 160°F (-30℃ ~ 70℃)
- Max. Length : 60m / 200ft

※ Branding

HWASEUNG Corp KOREA | RED TUBE FOOD HOSE (FOOD GRADE SYNTHETIC RUBBER TUBE) | SOFT WALL TYPE / MAX. W.P. *** PSI | CAUTION : INSPECT HOSE AND COUPLINGS PRIOR TO EACH USE DO NOT USE IF DAMAGED

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
RTFD												
RTFD-102	1	25.4	1.46	37.0	10	150	40	600	-	-	0.78	0.52
RTFD-132	1 1/4	31.8	1.71	43.4	10	150	40	600	-	-	0.92	0.62
RTFD-152	1 1/2	38.1	1.96	49.7	10	150	40	600	-	-	1.08	0.73
RTFD-202	2	50.8	2.46	62.4	10	150	40	600	-	-	1.38	0.93
RTFD-252	2 1/2	63.5	2.99	75.9	10	150	40	600	-	-	1.85	1.24
RTFD-302	3	76.2	3.49	88.6	10	150	40	600	-	-	2.18	1.46
RTFD-404	4	101.6	4.69	119.2	10	150	40	600	-	-	4.02	2.70
RTFD-504	5	127.0	5.76	146.2	10	150	40	600	-	-	5.53	3.72

AMMONIA SUCTION HOSE

Ammonia-specific hoses with suction and discharge.

Structure

- ■Tube : Nitril synthetic rubber (NBR) resistant to ammonia
- ■Reinforcement : Spiral-plied synthetic fabric with dual helix wire
- ■Cover : Black weather & ozone resistant neoprene synthetic rubber (Smooth cover)

Specification

- ■Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- ■Vacuum : 737mmHg / 29inHg
- ■Max. Length : 60m / 200ft

※ Branding

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
AMSS												
AMSS-132	1 1/4	31.8	1.94	49.3	10	150	40	600	8	200	1.71	1.15
AMSS-202	2	50.8	2.70	68.7	10	150	40	600	12	300	2.59	1.74

PETROLEUM HOSE | AIR & WATER HOSE | MATERIAL HOSE | CHEMICAL HOSE | WELDING HOSE | SPECIAL HOSE

PAINT SPRAY HOSE

Advantageous in work with flexibility and light-weight, and has high safety at high pressure.

Structure

- ■Tube : Chemical resistant nylon (Polyamid)
- ■Reinforcement : 1 wire braid / 1 textile braid + 1 wire braid / 2 textile braid + 1 wire braid
- ■Cover : Blue abrasion, oil, weather & ozone resistant polyurethane)

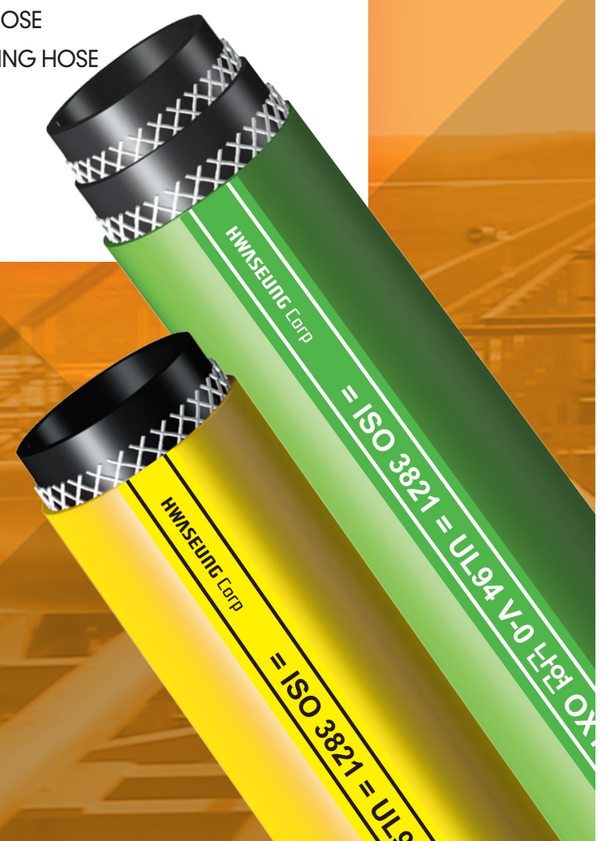
Specification

- ■Temperature : -40°F ~ 210°F (-40℃ ~ 100℃)

※ Branding

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
HSPW - 1 Wire Braid												
HSPW-04	3/16	4.7	0.38	9.6	460	6,500	1,380	19,500	1.4	35	0.13	0.09
HSPW-06	1/4	6.3	0.46	11.7	430	6,100	1,290	18,300	1.8	45	0.16	0.11
HSPW-09	3/8	9.4	0.61	15.5	330	4,700	990	14,100	2.4	60	0.24	0.16
HSPTW - 1 Textile Braid + 1 Wire Braid												
HSPTW-06	1/4	6.3	0.53	13.5	430	6,100	1,720	24,400	2.0	50	0.23	0.15
HSPTW-09	3/8	9.5	0.66	16.8	430	6,100	1,290	18,300	2.8	70	0.31	0.21
HSPAW - 1 Textile(Aramid) Braid + 1 Wire Braid												
HSPAW-04	3/16	4.7	0.44	11.2	500	7,100	2,000	28,400	2.0	50	0.17	0.11
HSPAW-06	1/4	6.3	0.50	12.8	500	7,100	2,000	28,400	2.6	60	0.21	0.14
HSPATW - 2 Textile(Aramid+P.E) Braid + 1 Wire Braid												
HSPATW-09	3/8	9.4	0.68	17.3	500	7,100	2,000	28,400	3.5	90	0.36	0.24

WELDING HOSE



ISO 3821 SINGLE WELDING HOSE (OX, AC, CO_2, N_2)

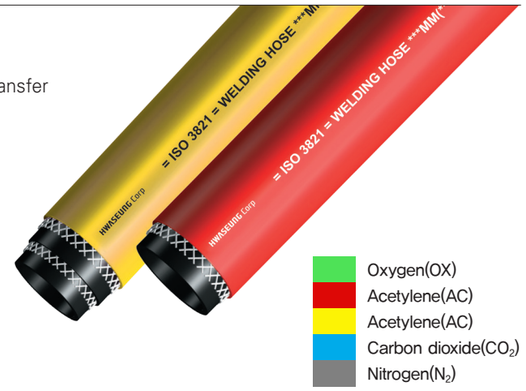
Used for oxygen and gas transport lines in shipbuilding, construction, civil engineering, iron manufacturing facilities, etc.

Structure

- **Tube** : High quality synthetic rubber suitable for oxygen and gas transfer
- **Reinforcement** : Spiral synthetic yarn
- **Cover** : Weather & ozone resistant rubber (EPDM rubber blending)

Specification

- **Temperature** : -20°F ~ 180°F (-30℃ ~ 80℃)
- **Cover color** : Green, Yellow, Red, Green, Blue, Gray, Black



※ Branding

HWASEUNG Corp = ISO 3821 = WELDING HOSE ***MM(***") I.D MAX. W.P 20BAR

Part No.	I.D		O.D		Max. W.P		Min. B.P		Min. B.P		Approx. Weight
	inch	mm	inch	mm	bar	psi	bar	psi	kg/m	lb/ft	m
SWG1B(Reinforcement 1B=2T/S)											
SWG1B-048	3/16	4.8	0.44	11.1	20	300	60	900	0.10	0.07	100
SWG1B-064	1/4	6.4	0.53	13.5	20	300	60	900	0.15	0.10	100
SWG1B-079	5/16	7.9	0.57	14.5	20	300	60	900	0.16	0.11	100
SWG1B-095	3/8	9.5	0.63	16.0	20	300	60	900	0.18	0.12	100
SWG1B-127	1/2	12.7	0.83	21.0	20	300	60	900	0.30	0.20	100
SWG1B-159	5/8	15.9	0.98	25.0	20	300	60	900	0.40	0.27	50
SWG1B-191	3/4	19.1	1.14	29.0	20	300	60	900	0.52	0.35	50
SWG1B-254	1	25.4	1.44	36.5	20	300	60	900	0.75	0.50	50
SWG2B(Reinforcement 2B=4T/S)											
SWG2B-064	1/4	6.4	0.55	14.0	20	300	60	900	0.17	0.11	100
SWG2B-079	5/16	7.9	0.59	15.0	20	300	60	900	0.19	0.13	100
SWG2B-095	3/8	9.5	0.71	18.0	20	300	60	900	0.25	0.17	100
SWG2B-127	1/2	12.7	0.87	22.0	20	300	60	900	0.35	0.24	100
SWG2B-159	5/8	15.9	1.04	26.5	20	300	60	900	0.49	0.33	50
SWG2B-191	3/4	19.1	1.20	30.5	20	300	60	900	0.63	0.42	50
SWG2B-254	1	25.4	1.50	38.0	20	300	60	900	0.88	0.59	50

ISO 3821 TWIN WELDING HOSE(OX + AC)

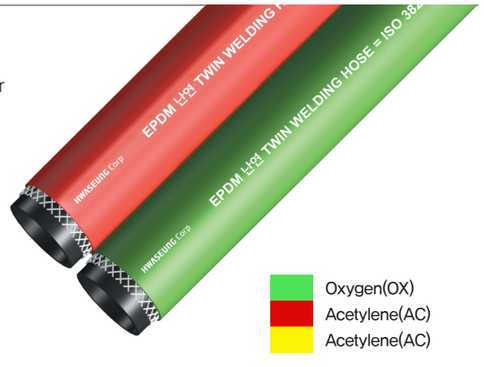
Used for oxygen and gas transport lines in shipbuilding, construction, civil engineering, iron manufacturing facilities, etc.

Structure

- **Tube** : High quality synthetic rubber suitable for oxygen and gas transfer
- **Reinforcement** : Spiral synthetic yarn
- **Cover** : Weather & ozone resistant rubber (EPDM rubber blending)

Specification

- **Temperature** : -20°F ~ 180°F (-30℃ ~ 80℃)
- **Cover color** : Green + Red / Green + Yellow



※ Branding

HWASEUNG Corp EPDM 난연 TWIN WELDING HOSE = ISO 3821 = ***MM(***") I.D MAX. W.P 20BAR

Part No.	I.D		O.D		Max. W.P		Min. B.P		Min. B.P		Approx. Weight
	inch	mm	inch	mm	bar	psi	bar	psi	kg/m	lb/ft	m
TWG1B(Reinforcement 1B=2T/S)											
TWG1B-048	3/16	4.8	0.44	11.1	20	300	60	900	0.21	0.14	100
TWG1B-079	5/16	7.9	0.57	14.5	20	300	60	900	0.32	0.22	100
TWG1B-095	3/8	9.5	0.63	16.0	20	300	60	900	0.36	0.24	100

ISO 3821 FLAME RESISTANT WELDING HOSE (OX, AC, CO_2)

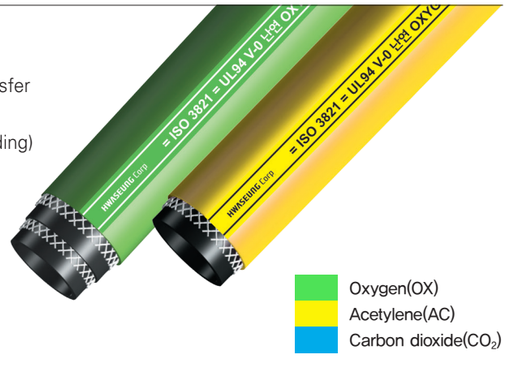
Used for oxygen and gas transport lines in shipbuilding, construction, civil engineering, iron manufacturing facilities, etc.

Structure

- **Tube** : High quality synthetic rubber suitable for oxygen and gas transfer
- **Reinforcement** : Spiral synthetic yarn
- **Cover** : Flame, weather & ozone resistant rubber (EPDM rubber blending)

Specification

- **Temperature** : -20°F ~ 180°F (-30℃ ~ 80℃)
- **Cover color** : Green, Yellow, Blue



※ Branding

HWASEUNG Corp = ISO 3821 = UL94 V-0 난연 OXYGEN(OX) GAS HOSE ***MM(***) I.D MAX. W.P 20BAR

Part No.	I.D		O.D		Max. W.P		Min. B.P		Min. B.P		Approx. Weight
	inch	mm	inch	mm	bar	psi	bar	psi	kg/m	lb/ft	m
FRSG1B(Reinforcement 1B=2T/S)											
FRSG1B-079	5/16	7.9	0.57	14.5	20	300	60	900	0.16	0.11	50/70/100
FRSG2B(Reinforcement 2B=4T/S)											
FRSG2B-079	5/16	7.9	0.61	15.5	20	300	60	900	0.20	0.13	50/70/100
FRSG2B-127	1/2	12.7	0.87	22.0	20	300	60	900	0.36	0.24	50/100
FRSG2B-191	3/4	19.1	1.20	30.5	20	300	60	900	0.64	0.43	50/60

ISO 3821 FLAME RESISTANT TWIN WELDING HOSE (OX + AC)

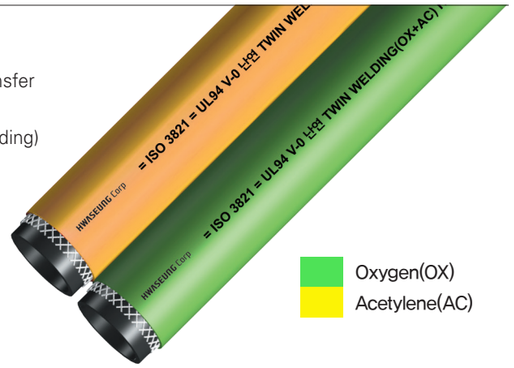
Used for oxygen and gas transport lines in shipbuilding, construction, civil engineering, iron manufacturing facilities, etc.

Structure

- Tube : High quality synthetic rubber suitable for oxygen and gas transfer
- Reinforcement : Spiral synthetic yarn
- Cover : Flame, weather & ozone resistant rubber (EPDM rubber blending)

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Cover color : Green + Yellow

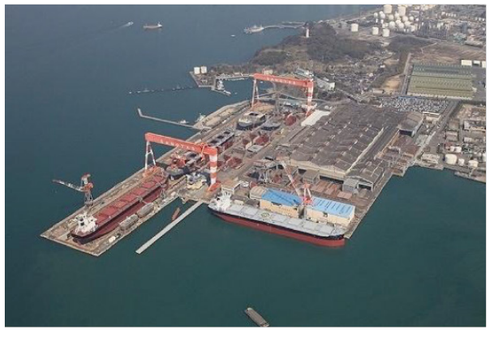


Oxygen(OX)
Acetylene(AC)

※ Branding

HWASEUNG Corp **= ISO 3821 = UL94 V-0 난연 TWIN WELDING(OX+AC) HOSE ***MM(***") I.D MAX. W.P 20BAR**

Part No.	I.D		O.D		Max. W.P		Min. B.P		Min. B.P		Approx. Weight
	inch	mm	inch	mm	bar	psi	bar	psi	kg/m	lb/ft	m
FRTW1B(Reinforcement 1B=2T/S)											
FRTW1B-05	5/16	7.9	0.57	14.5	20	300	60	900	0.33	0.22	50



ELECTRIC INSULATION HOSE

Used on lines requiring electrical resistance.

Structure

- Tube : High quality EPDM synthetic rubber with high insulation
- Reinforcement : Spiral synthetic yarn
- Cover : Insulation, weather & ozone resistant EPDM synthetic rubber

Specification

- Temperature : -20°F ~ 180°F (-30℃ ~ 80℃)
- Resistance : $10^6 \sim 10^9 \Omega$
- Color : Gray(Inner tube), Balck or Blue (Cover)

※ Branding

HWASEUNG Corp **BLUE ELECTRIC INSULATION HOSE ***MM(***") I.D MAX. W.P 20BAR / $10^{6\sim9}$ Ω**

Part No.	I.D		O.D		Max. W.P		Min. B.P		Min. B.P		Approx. Weight
	inch	mm	inch	mm	bar	psi	bar	psi	kg/m	lb/ft	m
INS1B											
INS1B-04	1/4	6.4	0.52	13.3	20	300	60	900	0.15	0.10	100
INS1B-05	5/16	7.9	0.59	15.0	20	300	60	900	0.18	0.12	100
INS1B-06	3/8	9.5	0.65	16.5	20	300	60	900	0.20	0.13	100
INS1B-08	1/2	12.7	0.79	20.0	20	300	60	900	0.27	0.18	100
INS1B-10	5/8	15.9	0.94	24.0	20	300	60	900	0.36	0.24	50
INS1B-12	3/4	19.1	1.14	29.0	20	300	60	900	0.54	0.36	50
INS1B-16	1	25.4	1.42	36.0	20	300	60	900	0.73	0.49	50

SPECIAL HOSE

OX/WATER LANCE HOSE

Used in devices that draw oxygen to remove impurities such as C, Si, P, and S from the steel mill's electric furnace and manufacture steels at high temperatures.

Structure

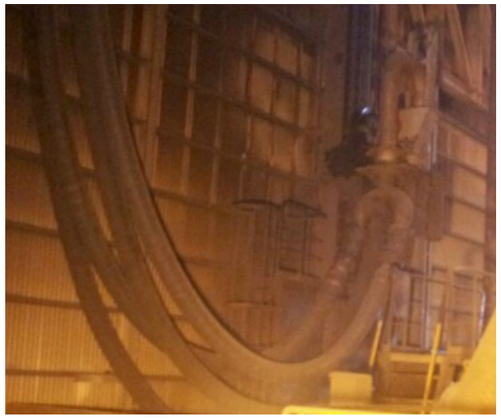
- **Tube :** NR/SBR blending composite rubber with good mechanical properties
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Abrasion, weather & ozone resistant synthetic rubber with outer glass fiber (Corrugated cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Max. Length :** 23m / 75ft

※ Branding

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
LCOX(OX Lance Hose) ※ Weight : Hose body only												
LCOX-808	8	203.2	10.05	255.2	10	150	40	600	60	1,500	28.42	19.10
LCOX-1010	10	254.0	12.20	310.0	20	300	80	1,200	95	2,400	36.61	24.60
LCOK-1210	12	304.8	14.24	361.8	15	210	60	840	110	2,900	43.10	28.96
LCWT(Water Lance Hose) ※ Weight : Hose body only												
LCWT-808	8	203.2	9.83	249.8	12	170	48	680	60	1,500	27.19	18.27
LCWT-1010	10	254.0	12.13	308.0	14	200	56	800	95	2,400	35.61	23.93
LCSUB(Sub Lance Hose) ※ Weight : Hose body only												
LCSUB-304	3	76.2	3.96	100.7	10	150	40	600	18	450	5.06	3.40



UHMW COVER FLEX. TANK TRUCK HOSE

Oil transfer up to 50% of gasoline, oil and aroma content. Excellent product durability with UHMW film protection.

Structure

- **Tube** : Nitrile synthetic rubber ARPM class A (High oil resistance)
- **Reinforcement :** Spiral-plied synthetic fabric with helix wire
- **Cover :** Abrasion, weather & ozone resistant synthetic rubber with outer UHMW film (Corrugated cover)

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Vacuum** : 737mmHg / 29inHg
- **Max. Length :** 60m / 200ft

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
UCTT												
UCTT-202	2	50.8	2.49	63.3	10	20	40	80	8	200	1.50	1.01

EPDM TUBE FOR DRY HEATING SYSTEM

Main item of dry heating system with good insulation effect and heat dissipation.

Structure

- EPDM synthetic rubber with excellent heat resistance

Specification

- **Temperature :** -20°F ~ 180°F (-30℃ ~ 80℃)
- **Max. Length :** 100m / 330ft

Part No.	I.D		O.D		Max. W.P		Min. B.P		Bend Radius		Approx. Weight	
	inch	mm	inch	mm	bar	psi	bar	psi	inch	mm	kg/m	lb/ft
EPTB												
EPTB-508	-	8.0	-	12.0	3	40	9	120	-	-	0.07	0.05

MEMO

GLOBAL HWASEUNG NETWORK

Hwaseung Corporation

www.hscorp.com

HEADQUARTERS
1079, Jungang-daero, Yeonje-gu, Busan,
Jangcheon B/D 9F
Tel. 82-51-717-7300

SEOUL OFFICE
341-17, Gunha-ri, Wolgot-myeon,
Gimpo-si, Gyeonggi-do
Tel. 82-31-981-2093

HSMJ

Jiangshan Town, Laixi City, Qingdao,
Shandong, China Zip Code : 266603
Tel. 86.185.6063.2957 Fax. 86-532-8249-9555

HWASEUNG R&A

www.hsrna.com

HEADQUARTERS
61, Chungnyeol-ro, Yangsan-si,
Gyeongsangnam-do
Tel. 82-55-370-3331~4 Fax. 82-55-387-8870/8832

SEOUL OFFICE
66, Yeoui-daero, Yeongdeungpo-gu,
Seoul(Yeouido-dong), KTB B/D 19F,
Tel. 82-2-6717-1200 Fax. 82-2-574-4898

HWASEUNG MATERIAL

www.hscmb.com

11, Yusangongdan 2-gil, Yangsan-si,
Gyeongsangnam-do
Tel. 82-55-780-3400 Fax. 82-55-383-9203

HWASEUNG INDUSTRIES

www.hsi.co.kr

HEADQUARTERS
1079, Jungang-daero, Yeonje-gu, Busan, Jangcheon B/D 6F
Tel. 82-51-311-0081 Fax. 82-51-312-2465

SEOUL OFFICE
396, Seocho-daero, Seocho-gu, Seoul, Gangnam B/D 4F,
Tel. 82-2-3471-3410 Fax. 82-2-3471-3414

YANGSAN OFFICE
39, Eogokgongdan 5-gil, Yangsan-si Gyeongsangnam-do
Tel. 82-55-380-3660 Fax. 82-55-380-3603

PLANT
400, Yunposun-ro, Dunpo-myeon, Asan-si,
Chungcheongnam-do
Tel. 82-41-531-5005 Fax. 82-41-531-0035

HWASEUNG NETWORKS

www.hsnetw.co.kr

HEADQUARTERS
1079, Jungang-daero, Yeonje-gu, Busan,
Jangcheon B/D 11, 12F
Tel. 82-51-850-0100 Fax. 82-51-850-0101

SEOUL OFFICE
66, Yeoui-daero, Yeongdeungpo-gu,
Seoul(Yeouido-dong), KTB B/D 19F,
Tel. 82-2-6958-2000 Fax. 82-2-6958-2001

HWASEUNG T&C

www.hstnc.co.kr

HEADQUARTERS
39, Eogokgongdan 5-gil, Yangsan-si,
Gyeongsangnam-do
Tel. 82-55-380-3600 Fax. 82-55-380-3601

ASAN PLANT
1017-14, Oncheon-daero, Sinchang-myeon,
Asan-si, Chungcheongnam-do
Tel. 82-41-538-1200 Fax. 82-41-546-8854

HWASEUNG ENTERPRISE

www.hsenterprise.co.kr

396, Seocho-daero, Seocho-gu, Seoul,
Gangnam B/D 4F,
Tel. 82-2-588-8043 Fax. 82-2-588-8045

HUNOMIC

1079, Jungang-daero, Yeonje-gu, Busan,
Jangcheon B/D 6F

HSNA

HWASEUNG NETWORKS AMERICA CORP.

3660 Wilshire blvd., Ste 212, Los Angeles,
California 90010 U.S.A
Tel. 1-213-232-3127 Fax. 1-213-232-4987

HSAH

HWASEUNG AUTOMOTIVE
AMERICA HOLDINGS INC.

100 Sonata Drive, Enterprise AL 36330, U.S.A.
Tel. 1-334-348-9516~9 Fax. 1-334-348-9520

HSAA

HWASEUNG AUTOMOTIVE
ALABAMA LLC.

100 Sonata Drive, Enterprise AL 36330, U.S.A.
Tel. 1-334-348-9516~9 Fax. 1-334-348-9520

HSAU

HWASEUNG AUTOMOTIVE USA LLC.

101 Development Drive, Enterprise AL 36330, U.S.A.
Tel. 1-334-348-9516~9 Fax. 1-334-348-9520

DETROIT OFFICE

3175 Martin RD.
Commerce Township, MI 48390
Tel. 1-248-871-1000

HSAM

HWASEUNG AUTOMOTIVE
MEXICO, S. DE R.L. DE C.V.

Ave. Industria # 101, VYNMSA Industrial Park,
Sector II, Ramos Arizpe, Coahuila, Mexico CP. 25904
Tel. 52-(1)-844-309-01-00

HII

PT. HWASEUNG IBS INDONESIA

Kawasan Bizpoint Modern Multi Business
Blok Dubai No.16 Sukamulya, Kec. Cikupa,
Tangerang - Banten 15710, Indonesia
Tel. 62-21-2292-1488 Fax. 62-21-2292-1726

HSAB

HWASEUNG AUTOMOTIVE INDUSTRIA
DE BORRACHA E COMERCIO BRASIL LTDA.

Via de Acesso Rod.do Acucar SP 308 Rod.Estadual
Cornelio Pires SP 127 Bairro Taquaral / CEP
13390-00 Rio das Pedras-SP-Brasil
Tel. 55-11-3493-7766

HWI

PT. HWASEUNG INDONESIA

Jl. Krasak Desa Banyuputih RT09 / RW03, Kec. Kalinya-
matan, kab Jepara, Jawa Tengah, Indonesia 59467
Tel. 62-291-751-2197 Fax. 62-291-751-2191