

# **GSM Industries, Inc.**

## **Hose Specifications and Technical Information**



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## GSM Water Hose – Spec 350E

Inside Diameter	Approximate O.D.*	Bend Radius		Working Pressure	Approximate Weight/Ft. (lbs)
		Working	Static		
3/8"	26/32"	2.5"	2"	200	.9 – 1.0
1/2"	1 15/64"	3"	2.5"	500	1.0 – 1.1
3/4"	1 11/32"	4"	3"	500	1.3 – 1.4
1"	1 21/32"	5"	4"	500	1.7 – 1.8
1 1/4"	1 30/36"	7.5"	5"	500	2.3 – 2.4
1 1/2"	2 9/32"	9"	8"	500	2.7 – 2.9
2"	2 25/32"	12"	10"	500	3.6 – 3.8
2 1/2"	3 9/32"	16"	13"	400	4.5
3"	4 2/32"	20"	17"	400	6
4"	5 18/32"	36"	24"	150	11
5"	7 25/32"	44"	30"	150	18
6"	7 45/64"	52"	36"	150	20
8"	10 7/64"	64"	50"	150	27.5
10"	12"	88"	70"	150	35

\* Tolerance of  $\pm 2/32$ "

**USE:** Various water cooling applications involving heat and exterior abrasion.

**MATERIAL:** Interior rubber hose will be compatible with water. The hose is wrapped with heat resistant insulation (1000 Degree F) and GSM "ball-joint armor." The armor is available in galvanized steel or stainless steel.

## GSM Air Hose – Spec 460E

Inside Diameter	Approximate O.D.*	Bend Radius		Working Pressure	Approximate Weight/Ft. (lbs)
		Working	Static		
3/8"	26/32"	2.5"	2"	200	.9 – 1.0
1/2"	1 15/64"	3"	2.5"	500	1.0 – 1.1
3/4"	1 11/32"	4"	3"	500	1.3 – 1.4
1"	1 21/32"	5"	4"	500	1.7 – 1.8
1 1/4"	1 30/36"	7.5"	5"	500	2.3 – 2.4
1 1/2"	2 9/32"	9"	8"	500	2.7 – 2.9
2"	2 25/32"	12"	10"	500	3.6 – 3.8
2 1/2"	3 9/32"	16"	13"	400	4.5
3"	4 2/32"	20"	17"	400	6

\* Tolerance of  $\pm 2/32$ "

**USE:** Applications involving air service in areas subject to heat and external abrasion.

**MATERIAL:** Interior rubber hose consists of a high quality nitrile blended tube. The hose is wrapped with heat resistant insulation (1000 Degree F) and GSM "ball-joint armor." The armor is available in galvanized steel or stainless steel.

## GSM Oxygen Hose – Spec 0256E

Inside Diameter	Approximate O.D.*	Bend Radius		Working Pressure	Approximate Weight/Ft. (lbs)
		Working	Static		
3/8"	60/64"	3"	2.5"	500	1.0
1/2"	1 17/64"	3.5"	3"	500	1.25
3/4"	1 19/64"	4.5"	3.5"	500	1.8
1"	1 45/64"	6"	5"	500	2.0
1 1/4"	1 52/64"	8.5"	7"	500	2.8
1 1/2"	2 9/32"	10"	9"	500	3.0
2"	2 53/64"	13"	11"	300	4.0
2 1/2"	3 27/64"	16"	13"	300	5.0
3"	3 45/64"	18"	15"	300	6.25
4"	5 18/32"	36"	24"	300	11

\* Tolerance of  $\pm 2/32$ "

**USE:** Oxygen injection systems, oxy-fuel burners. Used in applications to convey oxygen in areas of heat and abrasion.

**MATERIAL:** Interior rubber hose consists of neoprene tube compatible with oxygen. The hose is wrapped with heat resistant insulation (1000 Degree F) and GSM "ball-joint armor." The armor is available in galvanized steel or stainless steel.

## GSM Natural Gas Hose – 524E

Inside Diameter	Approximate O.D.*	Bend Radius		Working Pressure	Approximate Weight/Ft. (lbs)
		Working	Static		
3/8"	60/64"	3"	2.5"	500	1.0
1/2"	1 17/64"	3.5"	3"	500	1.25
3/4"	1 19/64"	4.5"	3.5"	500	1.8
1"	1 45/64"	6"	5"	500	2.0
1 1/4"	1 52/64"	8.5"	7"	500	2.8
1 1/2"	2 9/32"	10"	9"	500	3.0
2"	2 53/64"	13"	11"	300	4.0
2 1/2"	3 27/64"	16"	13"	300	5.0
3"	3 45/64"	18"	15"	300	6.25
4"	5 18/32"	36"	24"	300	11

\* Tolerance of  $\pm 2/32$ "

**USE:** Natural Gas systems, oxy-fuel burners. Used in applications to convey natural gas in areas of heat and abrasion.

**MATERIAL:** Interior rubber hose consists of neoprene tube compatible with natural gas. The hose is wrapped with heat resistant insulation (1000 Degree F) and GSM "ball-joint armor." The armor is available in galvanized steel or stainless steel.

## GSM Steam Hose – 769E

Inside Diameter	Approximate O.D.*	Bend Radius		Working Pressure	Approximate Weight/Ft (lbs.)
		Working	Static		
½"	1 15/64"	3"	2.5"	250	1.25
¾"	1 34/64"	6"	3"	250	2.0
1"	1 54/64"	8"	5"	250	2.25
1 ¼"	2 8/64"	11"	6"	250	3
1 ½"	2 26/64"	13"	7"	250	3.5
2"	3"	14"	8"	250	4.5
2 ½"	3 24/64"	16"	10.5"	250	6.25
3"	4 9/64"	19"	13"	250	7.5

\* Tolerance of  $\pm 2/32$ "

**USE:** Steam applications involving external heat and abrasion.

**MATERIAL:** Interior rubber hose consists of butyl blend tube, wire braid, and EPDM cover, that will handle steam up to 450 Degrees F. The hose is wrapped with heat resistant insulation (1000 Degree F) and GSM "ball-joint armor." The armor is available in galvanized steel or stainless steel.

## GSM Black Liquor Hose – 800E

Inside Diameter	Approximate O.D.*	Bend Radius		Working Pressure	Approximate Weight/Ft (lbs.)
		Working	Static		
½"	1 15/64"	3"	2.5"	250	1.25
¾"	1 34/64"	6"	3"	250	2.0
1"	1 54/64"	8"	5"	250	2.25
1 ¼"	2 8/64"	11"	6"	250	3
1 ½"	2 26/64"	13"	7"	250	3.5
2"	3"	14"	8"	250	4.5
2 ½"	3 24/64"	16"	10.5"	250	6.25
3"	4 9/64"	19"	13"	250	7.5

\* Tolerance of  $\pm 2/32$ "

**USE:** Steam applications involving external heat and abrasion.

**MATERIAL:** Interior rubber hose consists of butyl blend tube, wire braid, and EPDM cover, that will handle steam up to 450 Degrees F. The hose is wrapped with heat resistant insulation (1000 Degree F) and GSM "ball-joint armor." The armor is available in galvanized steel or stainless steel.

## GSM Hydraulic Hose

Inside Diameter	Working Pressure			Bend Radius			Approximate Weight/Ft (lbs)		
	100R1	100R2	100R12	100R1	100R2	100R12	100R1	100R2	100R12
¼"	2750	5000	N/A	3"	3"	N/A	.60	.78	N/A
3/8"	2250	4000	4000	4"	4"	5"	.80	1.01	1.03
½"	2000	3500	4000	6"	6"	7"	.95	1.19	1.24
5/8"	1500	2750	4000	7"	7"	8"	1.13	1.37	1.5
¾"	1250	2250	4000	8.5"	8.5"	9.5"	1.33	1.64	1.80
1"	1000	2000	4000	10"	10"	12"	2.21	2.58	2.84
1 ¼"	625	1625	3000	14.5"	14.5"	16.5"	2.73	3.61	3.70
1 ½"	500	1250	2500	18"	18"	20"	3.16	4.06	4.35
2"	375	1125	2500	22"	22"	25"	4.26	4.97	5.30

**USE:** For applications involving low or high pressure hydraulic fluid.

**MATERIAL:** Oil resistant, synthetic rubber, one, two, or four wire braids (as specified). Hoses are wrapped with fiberglass insulation and covered with GSM "ball-joint armor." Ideal hose for hydraulic application involving extreme heat, flexing, and abrasion. GSM offers a wide range of hydraulic specifications. For applications involving higher pressures and/or specific hydraulic fluids, please contact GSM.

## GSM BOF Oxygen Lance Hose – LW65

Inside Diameter	Approximate O.D.*	Bend Radius		Working Pressure	Burst Pressure	Approximate Weight/Ft (lbs)
		Working	Static			
4"	5 18/32"	36"	24"	300	1500	11
5"	6 25/32"	44"	30"	300	1500	18
6"	7 45/64"	52"	36"	300	1500	20
8"	10"	64"	50"	300	1500	27.5

\* Tolerance of  $\pm 1/8"$

**USE:** For the critical transfer of oxygen to the basic oxygen furnace.

**MATERIAL:** Smooth bore-high quality neoprene tube and cover. Insulation and GSM ball-joint armor provide excellent protection against extreme heat, flame, and molten splash. The armor is available in galvanized steel or stainless steel. Coupling end connections available to match the matching installation. Most of our swaged coupling assemblies have flanged connections (300#); however, special couplings can easily be designed to custom fit the lance system. Hoses are cleaned, capped, and crated prior to shipment.

All hoses should be stored out of the shipping crates in a straight position, preferably hanging. If left in a crate for an extended period of time, they tend to take set in a slightly curled condition, thus making them more difficult to install. The protection caps on each end of the hose should not be removed until the hose is being installed.

## GSM "Ball-Joint" Armored Metal Hose

Inside Diameter	Approximate O.D.*	Bending Radius (in")		Working Pressure	Burst Pressure	Approximate Weight/Ft (lbs)
		Static	Dynamic			
3/8"	.90	1.2"	5.0"	1558	6230	.70 - .80
1/2"	1.05	1.5"	5.5"	1186	4743	.80 - .90
3/4"	1.50	2.1"	8.0"	898	3591	1.20 - 1.30
1"	1.75	2.7"	9.0"	718	2872	2.00 - 2.15
1 1/4"	2.15	3.1"	10.0"	645	2581	2.50 - 2.65
1 1/2"	2.50	3.9"	11.0"	531	2125	3.00 - 3.20
2"	3.00	5.1"	13.0"	449	1797	3.90 - 4.10
2 1/2"	3.85	6.8"	16.0"	417	1669	5.25 - 5.50
3"	4.35	7.8"	18.0"	346	1384	6.25 - 6.50
4"	5.50	9.8"	22.0"	299	1194	12.00 - 12.75
5"	6.50	12.8"	28.0"	275	1099	14.00 - 14.75
6"	7.50	14.8"	32.0"	210	839	16.50 - 17.25

\* Tolerance of  $\pm .06$ "

**USE:** For applications when the use of a corrugated metal interior combined with the external "ball-joint armor" protection is required.

**MATERIAL:** Corrugated stainless steel tube, one or two braided (stainless steel) layers, covered with insulation (optional) and GSM "ball-joint armor." The armor is available in galvanized steel or stainless steel.

## Other "Ball-Joint" Armored Applications

**GSM:** The ultimate protector for:

- METAL HOSE
- TEFLON HOSE (increased bend radius)
- ROTARY, CHOKE & KILL, and BOP HOSE for Petroleum Industry
- BLACK LIQUOR and SHATTER JET HOSE for the Pulp and Paper Industry
- INERT GAS HOSE
- CONDUIT HOSE  
( protection for sensitive cables )

## InteMetal Hose

Inside Diameter	Number of Braids	Outside Diameter	Static Min. Bend Radius	Dynamic Min. Bend Radius	Working Pressure (PSI)	Burst Pressure (PSI)	Weight Per Foot (Lbs.)
3/8"	0	0.65"	1.2"	5.0"	70	6230	0.10
	1	0.71"			1558		0.20
	2	0.77"			2336		0.30
1/2"	0	0.77"	1.5"	5.5"	70	4743	0.11
	1	0.83"			1186		0.22
	2	0.89"			1779		0.33
5/8"	0	0.96"	1.8"	7.0"	57	4820	0.17
	1	1.02"			1205		0.33
	2	1.08"			1808		0.49
3/4"	0	1.16"	2.1"	8.0"	43	3591	0.19
	1	1.22"			898		0.37
	2	1.28"			1347		0.55
1"	0	1.47"	2.7"	9.0"	43	2872	0.26
	1	1.53"			718		0.50
	2	1.59"			1077		0.74
1 1/4"	0	1.75"	3.1"	10.0"	43	2581	0.29
	1	1.83"			645		0.61
	2	1.91"			968		0.93
1 1/2"	0	2.08"	3.9"	11.0"	28	2125	0.47
	1	2.16"			531		0.85
	2	2.24"			797		1.23
2"	0	2.61"	5.1"	13.0"	14	1797	0.59
	1	2.69"			449		1.11
	2	2.77"			674		1.63
2 1/2"	0	3.40"	6.8"	16.0"	14	1669	0.84
	1	3.50"			417		1.64
	2	3.60"			626		2.44
3"	0	3.88"	7.8"	18.0"	14	1384	1.18
	1	3.98"			346		2.06
	2	4.08"			519		2.94
4"	0	4.96"	9.8"	22.0"	14	1194	1.41
	1	5.06"			299		2.47
	2	5.16"			448		3.53
5"	0	6.00"	12.8"	28.0"	14	1099	2.18
	1	6.13"			275		3.61
	2	6.25"			412		5.04
6"	0	7.01"	14.8"	32.0"	11	839	2.69
	1	7.14"			210		4.44
	2	7.26"			315		6.19

NOTES: The minimum bend radius is measured from the center line of the hose.  
 The minimum bend radius increases with pressure.  
 The working pressure decreases with temperature.

USE: For applications when temperature extremes, corrosive media, or permeation preclude the use of rubber, PTFE (polytetrafluoroethylene), or plastic hose.

MATERIAL: Corrugated stainless steel tube, one or two braided (stainless steel) layers, fabricated and welded assemblies supplied with fittings as required.

## Couplings Available

**GSM** can supply standard coupling types as listed below and specially designed couplings to meet your needs.

- ◆ Male / Female NPT
- ◆ Male / Female BSP
- ◆ Male / Female GJ (ground jt) Unions
- ◆ Victaulic Connections
- ◆ Flanged Connections  
(from 150# ASTM and higher)
- ◆ Hydraulic Couplings

## Test Facilities

**GSM** can service your customer's needs with its modern testing equipment.  
Testing certification available upon request.

### WARRANTY

GSM Industries warrants that products manufactured by GSM, and described in this brochure, will be free from defects in material and workmanship for a period of one year from the date of shipment from GSM. This warranty is based on the customer using the GSM product in applications for which it was normally intended and storing it in compliance with recommended procedures. The warranty does not apply to any GSM product which has been subject to abuse, negligence, accident or misapplication, nor to a GSM product that has been altered or repaired by anybody other than GSM. In addition, it will not apply to GSM products that have not received normal maintenance and replacement of normal service items, such as washers, gaskets, sealants, lubricants or adapters. The warranty to parts and products not manufactured by GSM, but used with GSM products, will be limited to the actual warranty extended to GSM by its supplier. GSM's sole obligation under this warranty is limited to the option of repairing or replacing any product found by GSM to be defective upon examination by GSM, provided that the product is returned to GSM's factory or nearest authorized dealer for inspection within three months after discovery of the defect. The repair or replacement of defective GSM products will be made without charge for labor or parts.



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