

## Inboard insertion Blocking (IIB) Reverse Pressure test plug 3/4" to 24"\*

After more than half a century of various industries using the same basic technology, with known incidents of plug ejections, a major advancement in piping isolation and test plugs has been long overdue. GripSafe plugs are the result of a fundamental rethinking of traditional plug designs. With its new, patented independent wedge gripping system, GripSafe provides maximum holding capabilities while lowering risks to personnel and equipment - making it the safest and most reliable plug in the world.

### SAFETY & RELIABILITY

**Security.** With its unprecedented patented design, GripSafe's independent self-gripping technology virtually eliminates the risk of plug movement downstream upon installation.

**Superior Self Gripping.** The innovative system distributes equal loading across the gripping wedges ensuring maximum surface contact and holding capabilities. As pressure increases in front of the plug, the wedges grip tighter. Even in pipe diameters that are asymmetrical, each wedge independently adapts to variances within the pipe. GripSafe takes "self-gripping" to a new level.

**No Pipe Surface Damage.** Unlike competitive products which rely on serrated jaws to bite into the pipe for holding purposes, GripSafe uses a specially designed wedge system that grips the pipe without scarring the surface. GripSafe eliminates the need for a segment of sacrificial pipe, or the cleanup necessary to remove surface deformations other tools create.

**Non-Contaminating.** GripSafe plugs utilize a proprietary texture on the gripping wedges that can be used on any metal type with no carbon contamination. Therefore, in contrast with other plugs, GripSafe requires no alternate parts for use in stainless and other alloy pipes where cross contamination is a concern.

**Less Weight.** GripSafe plugs weigh less on average than competitive products. Significant weight differences exist as plug sizes increase, reaching upwards of 50% weight reductions in larger sizes without sacrificing holding capabilities.

### APPLICATIONS

**Flange Weld Testing.** Used in conjunction with a ported blind flange, GripSafe IIB plugs stress the weld joint in longitudinal (axial), circumferential (hoop) and radial pressures identical to the stresses that would be induced when hydro-testing the entire piping system, making them superior to traditional flange test plugs (FTP) which apply hoop and radial stresses only.

**Pressure Vessels.** Block outlet piping in vessels to pressurize for cleaning or testing purposes.

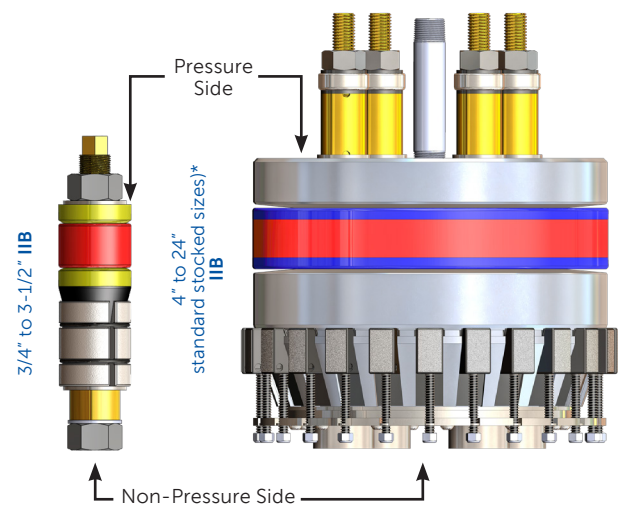


### GRIPSAFE® INNOVATION

Manufactured Exclusively by USA Industries, Inc. an ISO 9001:2015 Certified Company

#### Patents & Trademarks

- US PATENTS: 9,927,058 | 9,810,364 | D894,349 | 10,746,339
- CANADIAN PATENT: 3,004,787
- CANADIAN INDUSTRIAL DESIGN: CA 186293
- EUROPEAN PATENT: 3,377,797 B1
- EUROPEAN PATENT [Germany]: 602016051864.3
- EUROPEAN UNION DESIGN REGISTRATION: 00628264-001
- INTERNATIONAL TRADEMARK REGISTRATION: 1550298
- Other US and Foreign Patents Pending



\* Larger sizes and custom configurations available upon request

Note: For 4" NPS, Pipe Schedules 120, 160, and XXH require the smaller plug configuration.

For more information on USA Industries, Inc.'s products, contact us at (713) 941-3797 or go to [www.USAIindustries.com](http://www.USAIindustries.com)



**Table 1: GripSafe IIB Specifications**

Nominal Pipe Size (in)	Schedule	Part Number	Tool Diameter (in)	Rec. ID Range* (in)	Nominal Pipe ID Clearance (in)	Approx. Tool Weight (lbs)	Tool Length (in)	Torque Range (ft-lbs)		Compr Hex Nut Socket Size (in)	Backup Wrench Size (in)	Back Pressure Vent Thread	Test Pressure Rating (PSI)*
								Norm	Max.				
3/4	40,STD,40S	GS-I-R-0075-040	0.79	0.81 - 0.91	0.035	0.3	5.88	3.0	5.0	9/16	1/4 Open End	1/16 MNPT	10000
	80,XS,80S	GS-I-R-0075-080	0.71	0.73 - 0.80	0.035	0.3	5.88	2.0	3.5	9/16	1/4 Open End	1/16 MNPT	10000
1	10	GS-I-R-0100-010	0.99	1.01 - 1.15	0.103	0.5	5.88	5.5	8.5	9/16	1/4 Open End	1/16 MNPT	2825
	40,STD,40S	GS-I-R-0100-040	0.99	1.02 - 1.15	0.055	0.5	5.88	5.5	8.5	9/16	1/4 Open End	1/16 MNPT	10000
	80,XS,80S	GS-I-R-0100-080	0.90	0.93 - 1.04	0.055	0.4	5.88	1.5	7.0	9/16	1/4 Open End	1/16 MNPT	10000
	160	GS-I-R-0100-160	0.78	0.80 - 0.90	0.035	0.3	5.88	3.0	5.0	9/16	1/4 Open End	1/16 MNPT	10000
1-1/4	10	GS-I-R-0125-010	1.31	1.35 - 1.49	0.130	1.8	9.38	10	20	15/16	7/16 Open End	1/4 MNPT	2350
	40,STD,40S	GS-I-R-0125-040	1.31	1.35 - 1.49	0.068	1.8	9.38	10	20	15/16	7/16 Open End	1/4 MNPT	10000
	80,XS,80S	GS-I-R-0125-080	1.21	1.25 - 1.37	0.065	1.7	9.38	10	20	15/16	7/16 Open End	1/4 MNPT	10000
	160	GS-I-R-0125-160	1.11	1.14 - 1.26	0.055	0.6	5.88	7.0	11.0	9/16	1/4 Open End	1/16 MNPT	10000
	XXH	GS-I-R-0125-XXH	0.85	0.87 - 0.98	0.045	0.4	5.88	4.0	6.0	9/16	1/4 Open End	1/16 MNPT	10000
1-1/2	10	GS-I-R-0150-010	1.53	1.58 - 1.73	0.157	2.3	9.38	20	30	15/16	7/16 Open End	1/4 MNPT	2125
	40,STD,40S	GS-I-R-0150-040	1.53	1.58 - 1.73	0.085	2.3	9.38	20	30	15/16	7/16 Open End	1/4 MNPT	10000
	80,XS,80S	GS-I-R-0150-080	1.42	1.47 - 1.62	0.085	2.1	9.38	20	30	15/16	7/16 Open End	1/4 MNPT	10000
	160	GS-I-R-0150-160	1.27	1.31 - 1.45	0.068	1.8	9.38	10	20	15/16	7/16 Open End	1/4 MNPT	10000
	XXH	GS-I-R-0150-XXH	1.05	1.08 - 1.20	0.055	0.5	5.88	6.0	10.0	9/16	1/4 Open End	1/16 MNPT	10000
2	10	GS-I-R-0200-010	1.94	2.00 - 2.25	0.220	3.4	9.38	30	50	15/16	7/16 Open End	1/4 MNPT	1825
	40,STD,40S	GS-I-R-0200-040	1.94	2.00 - 2.25	0.130	3.4	9.38	30	50	15/16	7/16 Open End	1/4 MNPT	10000
	80,XS,80S	GS-I-R-0200-080	1.81	1.87 - 1.99	0.130	3.1	9.38	30	50	15/16	7/16 Open End	1/4 MNPT	10000
	160	GS-I-R-0200-160	1.60	1.65 - 1.81	0.085	2.5	9.38	25	35	15/16	7/16 Open End	1/4 MNPT	10000
	XXH	GS-I-R-0200-XXH	1.42	1.47 - 1.62	0.085	2.1	9.38	15	25	15/16	7/16 Open End	1/4 MNPT	10000
2-1/2	10	GS-I-R-0250-010	2.34	2.40 - 2.64	0.291	9.7	12.88	60	100	1-7/8	1 Box End	3/8 FNPT	1975
	40,STD,40S	GS-I-R-0250-040	2.34	2.40 - 2.64	0.125	9.7	12.88	60	100	1-7/8	1 Box End	3/8 FNPT	8000
	80,XS,80S	GS-I-R-0250-080	2.20	2.26 - 2.41	0.125	9.0	12.88	60	100	1-7/8	1 Box End	3/8 FNPT	8000
	160	GS-I-R-0250-160	2.00	2.06 - 2.21	0.125	8.5	12.88	55	85	1-7/8	1 Box End	3/8 FNPT	8000
	XXH	GS-I-R-0250-XXH	1.69	1.74 - 1.89	0.085	3.0	9.38	25	40	15/16	7/16 Open End	1/4 MNPT	8000
3	10	GS-I-R-0300-010	2.88	2.97 - 3.16	0.385	13.6	12.88	150	200	1-7/8	1 Box End	3/8 FNPT	1725
	40,STD,40S	GS-I-R-0300-040	2.88	2.97 - 3.16	0.193	13.6	12.88	150	200	1-7/8	1 Box End	3/8 FNPT	8000
	80,XS,80S	GS-I-R-0300-080	2.71	2.80 - 3.01	0.190	12.5	12.88	125	175	1-7/8	1 Box End	3/8 FNPT	8000
	160	GS-I-R-0300-160	2.50	2.56 - 2.74	0.125	11.7	12.88	80	140	1-7/8	1 Box End	3/8 FNPT	8000
	XXH	GS-I-R-0300-XXH	2.18	2.24 - 2.39	0.125	9.0	12.88	60	100	1-7/8	1 Box End	3/8 FNPT	8000
3-1/2	10	GS-I-R-0350-010	3.34	3.44 - 3.67	0.416	17.2	12.88	200	325	1-7/8	1 Box End	3/8 FNPT	1575
	40,STD,40S	GS-I-R-0350-040	3.34	3.44 - 3.67	0.204	17.2	12.88	200	325	1-7/8	1 Box End	3/8 FNPT	8000
	80,XS,80S	GS-I-R-0350-080	3.16	3.26 - 3.45	0.208	15.8	12.88	180	290	1-7/8	1 Box End	3/8 FNPT	8000
	XXH	GS-I-R-0350-XXH	2.60	2.66 - 2.84	0.125	12.1	12.88	115	165	1-7/8	1 Box End	3/8 FNPT	8000
4	120	GS-I-R-0400-120	3.42	3.52 - 3.72	0.205	17.8	12.88	220	340	1-7/8	1 Box End	3/8 FNPT	8000
	160	GS-I-R-0400-160	3.23	3.33 - 3.53	0.205	17.2	12.88	200	300	1-7/8	1 Box End	3/8 FNPT	8000
	XXH	GS-I-R-0400-XXH	2.95	3.01 - 3.20	0.205	15.6	12.88	155	245	1-7/8	1 Box End	3/8 FNPT	8000



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Nominal Pipe Size (in)	Schedule	Part Number	Tool Diameter (in)	Rec. ID Range* (in)	Nominal Pipe ID Clearance (in)	Approx. Tool Weight (lbs)	Tool Length (in)	Torque Range (ft-lbs)		Comp. Hex Nut Socket Size (in)	Back Pressure Vent Thread	Test Pressure Rating (PSI)*
								Norm	Max.			
4	10,10S	GS-I-R-0400-010	4.04	4.102 - 4.540	0.220	21	13.94	120	250	1-5/16"	1/4" FNPT	4875
	40,STD,40S	GS-I-R-0400-040	3.81	3.868 - 4.306	0.220	19	13.94	120	250	1-5/16"	1/4" FNPT	5450
	80,XS,80S	GS-I-R-0400-080	3.61	3.668 - 4.106	0.220	17	13.94	120	250	1-5/16"	1/4" FNPT	6050
6	10,10S	GS-I-R-0600-010	5.98	6.044 - 6.422	0.375	34	16.42	85	130	1-1/16"	1/4" MNPT	3300
	40,STD,40S	GS-I-R-0600-040	5.69	5.752 - 6.129	0.375	32	16.42	75	110	1-1/16"	1/4" MNPT	3600
	80,XS,80S	GS-I-R-0600-080	5.39	5.448 - 5.823	0.375	29	16.42	60	95	1-1/16"	1/4" MNPT	4000
	120	GS-I-R-0600-120	5.13	5.188 - 5.562	0.375	27	16.42	55	80	1-1/16"	1/4" MNPT	3900
	160	GS-I-R-0600-160	4.81	4.874 - 5.246	0.375	25	16.42	40	60	3/4"	1/4" MNPT	3850
	XXH	GS-I-R-0600-XXH	4.52	4.584 - 4.955	0.375	23	16.42	35	55	3/4"	1/4" MNPT	3700
8	10,10S	GS-I-R-0800-010	7.95	8.016 - 8.404	0.375	61	16.28	120	150	1-1/4"	1/2" MNPT	3200
	20	GS-I-R-0800-020	7.75	7.812 - 8.199	0.375	59	16.28	120	150	1-1/4"	1/2" MNPT	3350
	30	GS-I-R-0800-030	7.70	7.758 - 8.145	0.375	58	16.28	120	150	1-1/4"	1/2" MNPT	3400
	40,STD,40S	GS-I-R-0800-040	7.61	7.668 - 8.054	0.375	56	16.28	120	150	1-1/4"	1/2" MNPT	3475
	60	GS-I-R-0800-060	7.44	7.500 - 7.885	0.375	55	16.28	120	150	1-1/4"	1/2" MNPT	3625
	80,XS,80S	GS-I-R-0800-080	7.25	7.312 - 7.696	0.375	53	16.28	120	150	1-1/4"	1/2" MNPT	3800
	100	GS-I-R-0800-100	7.06	7.124 - 7.507	0.375	50	16.28	100	150	1-1/4"	1/2" MNPT	3725
	120	GS-I-R-0800-120	6.81	6.874 - 7.256	0.375	48	16.28	100	150	1-1/4"	1/2" MNPT	3725
	140	GS-I-R-0800-140	6.63	6.688 - 7.069	0.375	46	16.28	90	150	1-1/16"	1/4" MNPT	3925
	160	GS-I-R-0800-160	6.44	6.500 - 6.880	0.375	44	16.28	90	150	1-1/16"	1/4" MNPT	3825
	XXH	GS-I-R-0800-XXH	6.50	6.562 - 6.943	0.375	44	16.28	90	150	1-1/16"	1/4" MNPT	3750
10	10,10S	GS-I-R-1000-010	10.05	10.107 - 10.505	0.375	83	15.40	120	150	1-1/4"	3/4" MNPT	2725
	20	GS-I-R-1000-020	9.88	9.937 - 10.335	0.375	80	15.40	120	150	1-1/4"	3/4" MNPT	2800
	30	GS-I-R-1000-030	9.76	9.823 - 10.220	0.375	79	15.40	120	150	1-1/4"	3/4" MNPT	2875
	40,STD,40S	GS-I-R-1000-040	9.65	9.707 - 10.103	0.375	76	15.40	120	150	1-1/4"	3/4" MNPT	2950
	60,XS,80S	GS-I-R-1000-08S	9.38	9.437 - 9.832	0.375	73	15.40	120	150	1-1/4"	3/4" MNPT	3100
	80	GS-I-R-1000-080	9.19	9.249 - 9.643	0.375	71	15.40	120	150	1-1/4"	3/4" MNPT	3225
	100	GS-I-R-1000-100	8.94	8.999 - 9.392	0.375	67	15.40	120	150	1-1/4"	3/4" MNPT	3400
	120	GS-I-R-1000-120	8.69	8.749 - 9.141	0.375	65	15.40	120	150	1-1/4"	1/2" MNPT	3425
	140,XXH	GS-I-R-1000-140	8.38	8.437 - 8.827	0.375	63	15.40	120	150	1-1/4"	1/2" MNPT	3475
	160	GS-I-R-1000-160	8.13	8.187 - 8.576	0.375	62	15.40	120	150	1-1/4"	1/2" MNPT	3475
12	10,10S	GS-I-R-1200-010	12.02	12.077 - 12.485	0.375	109	15.40	120	150	1-1/4"	3/4" MNPT	2300
	20	GS-I-R-1200-020	11.88	11.937 - 12.345	0.375	107	15.40	120	150	1-1/4"	3/4" MNPT	2375
	30	GS-I-R-1200-030	11.72	11.777 - 12.184	0.375	105	15.40	120	150	1-1/4"	3/4" MNPT	2425
	STD,40S	GS-I-R-1200-04S	11.63	11.687 - 12.093	0.375	102	15.40	120	150	1-1/4"	3/4" MNPT	2475
	40	GS-I-R-1200-040	11.56	11.625 - 12.031	0.375	101	15.40	120	150	1-1/4"	3/4" MNPT	2500
	XS,80S	GS-I-R-1200-08S	11.38	11.437 - 11.842	0.375	100	15.40	120	150	1-1/4"	3/4" MNPT	2575
	60	GS-I-R-1200-060	11.25	11.313 - 11.717	0.375	97	15.40	120	150	1-1/4"	3/4" MNPT	2725
	80	GS-I-R-1200-080	11.00	11.061 - 11.464	0.375	93	15.40	120	150	1-1/4"	3/4" MNPT	2850
	100	GS-I-R-1200-100	10.69	10.749 - 11.151	0.375	89	15.40	120	150	1-1/4"	3/4" MNPT	2900
		120,XXH	GS-I-R-1200-120	10.38	10.437 - 10.837	0.375	87	15.40	120	150	1-1/4"	3/4" MNPT
	140	GS-I-R-1200-140	10.13	10.187 - 10.586	0.375	85	15.40	120	150	1-1/4"	3/4" MNPT	2950
	160	GS-I-R-1200-160	9.75	9.813 - 10.210	0.375	81	15.40	120	150	1-1/4"	3/4" MNPT	3025
14	10S	GS-I-R-1400-01S	13.25	13.311 - 13.725	0.375	146	16.50	120	300	1-5/8"	1" MNPT	1925
	10	GS-I-R-1400-010	13.13	13.187 - 13.601	0.375	144	16.50	120	300	1-5/8"	1" MNPT	1950
	20	GS-I-R-1400-020	13.00	13.063 - 13.476	0.375	142	16.50	120	300	1-5/8"	1" MNPT	1975
	30,STD,40S	GS-I-R-1400-04S	12.88	12.937 - 13.333	0.375	138	16.50	120	300	1-5/8"	1" MNPT	2025
	40	GS-I-R-1400-040	12.75	12.811 - 13.223	0.375	137	16.50	120	250	1-5/8"	1" MNPT	2050
	XS,80S	GS-I-R-1400-08S	12.63	12.687 - 13.098	0.375	136	16.50	120	250	1-5/8"	1" MNPT	2100
	60	GS-I-R-1400-060	12.44	12.499 - 12.909	0.375	131	16.50	120	250	1-5/8"	1" MNPT	2425
	80	GS-I-R-1400-080	12.13	12.187 - 12.596	0.375	125	16.50	120	250	1-5/8"	1" MNPT	2550
	100	GS-I-R-1400-100	11.75	11.811 - 12.218	0.375	119	16.50	120	250	1-5/8"	1" MNPT	2725
		120	GS-I-R-1400-120	11.44	11.499 - 11.904	0.375	113	16.50	120	250	1-5/8"	1" MNPT
	140	GS-I-R-1400-140	11.13	11.187 - 11.591	0.375	108	16.50	120	250	1-5/8"	1" MNPT	2800
	160	GS-I-R-1400-160	10.81	10.875 - 11.277	0.375	103	16.50	120	250	1-5/8"	1" MNPT	2825



**Table 1: GripSafe IIB Specifications cont.**

Nominal Pipe Size (in)	Schedule	Part Number	Tool Diameter (in)	Rec. ID Range* (in)	Nominal Pipe ID Clearance (in)	Approx. Tool Weight (lbs)	Tool Length (in)	Torque Range (ft-lbs)		Comp. Hex Nut Socket Size (in)	Back Pressure Vent Thread	Test Pressure Rating (PSI)*
								Norm	Max.			
16	10S	GS-I-R-1600-01S	15.25	15.311 - 15.735	0.375	190	16.50	120	300	1-5/8"	1" MNPT	1950
	10	GS-I-R-1600-010	15.13	15.187 - 15.611	0.375	187	16.50	120	300	1-5/8"	1" MNPT	1975
	20	GS-I-R-1600-020	15.00	15.063 - 15.486	0.375	184	16.50	120	300	1-5/8"	1" MNPT	2000
	30,STD,40S	GS-I-R-1600-04S	14.88	14.937 - 15.360	0.375	181	16.50	120	300	1-5/8"	1" MNPT	2025
	40,XS,80S	GS-I-R-1600-08S	14.63	14.687 - 15.108	0.375	176	16.50	120	300	1-5/8"	1" MNPT	2100
	60	GS-I-R-1600-060	14.31	14.375 - 14.795	0.375	169	16.50	120	300	1-5/8"	1" MNPT	2200
	80	GS-I-R-1600-080	14.00	14.063 - 14.481	0.375	162	16.50	120	300	1-5/8"	1" MNPT	2300
	100	GS-I-R-1600-100	13.56	13.625 - 14.041	0.375	153	16.50	120	300	1-5/8"	1" MNPT	2350
	120	GS-I-R-1600-120	13.19	13.249 - 13.663	0.375	148	16.50	120	275	1-5/8"	1" MNPT	2400
	140	GS-I-R-1600-140	12.75	12.811 - 13.223	0.375	140	16.50	120	275	1-5/8"	1" MNPT	2500
160	GS-I-R-1600-160	12.44	12.499 - 12.909	0.375	135	16.50	120	275	1-5/8"	1" MNPT	2525	
18	10S	GS-I-R-1800-01S	17.25	17.311 - 17.745	0.375	229	16.50	120	350	1-5/8"	1" MNPT	1725
	10	GS-I-R-1800-010	17.13	17.187 - 17.621	0.375	225	16.50	120	350	1-5/8"	1" MNPT	1750
	20	GS-I-R-1800-020	17.00	17.063 - 17.496	0.375	222	16.50	120	350	1-5/8"	1" MNPT	1775
	STD,40S	GS-I-R-1800-04S	16.88	16.937 - 17.370	0.375	219	16.50	120	350	1-5/8"	1" MNPT	1800
	30	GS-I-R-1800-030	16.75	16.811 - 17.243	0.375	216	16.50	120	350	1-5/8"	1" MNPT	1825
	XS,80S	GS-I-R-1800-08S	16.63	16.687 - 17.118	0.375	214	16.50	120	350	1-5/8"	1" MNPT	1850
	40	GS-I-R-1800-040	16.50	16.563 - 16.994	0.375	211	16.50	120	350	1-5/8"	1" MNPT	1975
	60	GS-I-R-1800-060	16.25	16.311 - 16.740	0.375	205	16.50	120	350	1-5/8"	1" MNPT	2025
	80	GS-I-R-1800-080	15.75	15.811 - 16.238	0.375	199	16.50	120	350	1-5/8"	1" MNPT	2100
	100	GS-I-R-1800-100	15.31	15.375 - 15.800	0.375	194	16.50	120	350	1-5/8"	1" MNPT	2175
	120	GS-I-R-1800-120	15.08	15.137 - 15.561	0.375	189	16.50	120	350	1-5/8"	1" MNPT	2175
	140	GS-I-R-1800-140	14.50	14.563 - 14.984	0.375	181	16.50	120	350	1-5/8"	1" MNPT	2275
160	GS-I-R-1800-160	14.06	14.125 - 14.543	0.375	172	16.50	120	350	1-5/8"	1" MNPT	2350	
20	10S	GS-I-R-2000-01S	19.19	19.249 - 19.693	0.375	286	16.70	120	350	1-5/8"	1-1/2" MNPT	1550
	10	GS-I-R-2000-010	19.13	19.187 - 19.631	0.375	284	16.70	120	350	1-5/8"	1-1/2" MNPT	1550
	20,STD,40S	GS-I-R-2000-04S	18.88	18.937 - 19.380	0.375	278	16.70	120	350	1-5/8"	1-1/2" MNPT	1600
	30,XS,80S	GS-I-R-2000-08S	18.63	18.687 - 19.128	0.375	271	16.70	120	350	1-5/8"	1-1/2" MNPT	1650
	40	GS-I-R-2000-040	18.44	18.499 - 18.939	0.375	266	16.70	120	350	1-5/8"	1-1/2" MNPT	1850
	60	GS-I-R-2000-060	18.00	18.063 - 18.501	0.375	254	16.70	120	350	1-5/8"	1-1/2" MNPT	1875
	80	GS-I-R-2000-080	17.56	17.625 - 18.061	0.375	243	16.70	120	350	1-5/8"	1-1/2" MNPT	1925
	100	GS-I-R-2000-100	17.06	17.125 - 17.558	0.375	231	16.70	120	350	1-5/8"	1-1/2" MNPT	2000
	120	GS-I-R-2000-120	16.63	16.687 - 17.118	0.375	236	16.70	120	350	1-5/8"	1-1/2" MNPT	2050
140	GS-I-R-2000-140	16.12	16.183 - 16.612	0.375	223	16.70	120	320	1-5/8"	1-1/2" MNPT	2075	
160	GS-I-R-2000-160	15.69	15.751 - 16.178	0.375	212	16.70	120	320	1-5/8"	1-1/2" MNPT	2125	
24	10,10S	GS-I-R-2400-010	23.13	23.187 - 23.651	0.375	390	16.70	120	350	1-5/8"	1-1/2" MNPT	1300
	20,STD,40S	GS-I-R-2400-04S	22.88	22.937 - 23.400	0.375	381	16.70	120	350	1-5/8"	1-1/2" MNPT	1325
	XS,80S	GS-I-R-2400-08S	22.63	22.687 - 23.148	0.375	375	16.70	120	350	1-5/8"	1-1/2" MNPT	1350
	30	GS-I-R-2400-030	22.50	22.563 - 23.024	0.375	370	16.70	120	350	1-5/8"	1-1/2" MNPT	1550
	40	GS-I-R-2400-040	22.25	22.311 - 22.770	0.375	363	16.70	120	350	1-5/8"	1-1/2" MNPT	1575
	60	GS-I-R-2400-060	21.69	21.749 - 22.206	0.375	346	16.70	120	350	1-5/8"	1-1/2" MNPT	1625
	80	GS-I-R-2400-080	21.19	21.249 - 21.703	0.375	357	16.70	120	350	1-5/8"	1-1/2" MNPT	1650
	100	GS-I-R-2400-100	20.56	20.625 - 21.076	0.375	346	16.70	120	350	1-5/8"	1-1/2" MNPT	1700
	120	GS-I-R-2400-120	20.00	20.063 - 20.511	0.375	336	16.70	120	350	1-5/8"	1-1/2" MNPT	1725
	140	GS-I-R-2400-140	19.50	19.563 - 20.009	0.375	328	16.70	120	350	1-5/8"	1-1/2" MNPT	1750
160	GS-I-R-2400-160	18.94	18.999 - 19.442	0.375	318	16.70	120	350	1-5/8"	1-1/2" MNPT	1825	



**Table 2: Maximum Allowable Pressures (MAP)**

Use the table below to determine the maximum allowable pressure (MAP) the plug and pipe can be subjected to without yielding the pipe. The yield strengths listed in the table correspond to typical minimum yield strengths of standard pipes. If using a Material Test Report (MTR) to determine the yield strength of the pipe or if the pipe yield strength exceeds the highest in the table, the precise MAP can be determined by linear interpolation. **Do not exceed MAX PLUG BACK PRESSURE RATINGS.**

NPS Nominal Pipe Size	PIPE SCHEDULE	MAX PLUG BACK PRESSURE RATING (PSI) (NOT TO EXCEED)	MAXIMUM ALLOWABLE PRESSURE FOR GRIPSAFE PLUGS IN PIPE BASED ON PIPE YIELD STRENGTH - SELECT THE COLUMN BELOW THAT IS LESS THAN OR EQUAL TO PIPE YIELD STRENGTH (PSI) -										
			30000 PSI (A106 A)	35000 PSI (A106 B)	40000 PSI (A106 C)	46000 PSI (X46)	52000 PSI (X52)	60000 PSI (X60)	70000 PSI (X70)	80000 PSI (X80)	90000 PSI (4140HR)	100000 PSI (4140SR)	110000 PSI (P110)
6	10,10S	3300	725	850	975	1125	1275	1450	1700	1950	2175	2425	2650
	40,STD,40S	3600	1875	2200	2500	2875	3250	3600	3600	3600	3600	3600	3600
	80,XS,80S	4000	3475	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
	120	3900	3900	3900	3900	3900	3900	3900	3900	3900	3900	3900	3900
	160	3850	3850	3850	3850	3850	3850	3850	3850	3850	3850	3850	3850
	XXH	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700	3700
8	10,10S	3200	500	575	675	775	875	1000	1150	1325	1500	1650	1825
	20	3350	975	1125	1300	1475	1675	1925	2250	2575	2900	3200	3350
	30	3400	1100	1300	1475	1700	1925	2200	2575	2950	3300	3400	3400
	40,STD,40S	3475	1350	1575	1800	2075	2350	2700	3150	3475	3475	3475	3475
	60	3625	1875	2175	2500	2875	3225	3625	3625	3625	3625	3625	3625
	80,XS,80S	3800	2525	2950	3375	3800	3800	3800	3800	3800	3800	3800	3800
	100	3725	3350	3725	3725	3725	3725	3725	3725	3725	3725	3725	3725
	120	3725	3725	3725	3725	3725	3725	3725	3725	3725	3725	3725	3725
	140	3925	3925	3925	3925	3925	3925	3925	3925	3925	3925	3925	3925
	160	3825	3825	3825	3825	3825	3825	3825	3825	3825	3825	3825	3825
XXH	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	3750	
10	10,10S	2725	375	450	500	575	650	750	875	1000	1125	1250	1375
	20	2800	650	750	850	975	1100	1275	1475	1675	1900	2100	2325
	30	2875	825	975	1100	1275	1450	1650	1925	2200	2475	2750	2875
	40,4STD,40s	2950	1050	1225	1400	1600	1825	2100	2450	2775	2950	2950	2950
	60,XS,80S	3100	1625	1900	2175	2500	2825	3100	3100	3100	3100	3100	3100
	80	3225	2100	2450	2800	3225	3225	3225	3225	3225	3225	3225	3225
	100	3400	2825	3275	3400	3400	3400	3400	3400	3400	3400	3400	3400
	120	3425	3425	3425	3425	3425	3425	3425	3425	3425	3425	3425	3425
	140,XXH	3475	3475	3475	3475	3475	3475	3475	3475	3475	3475	3475	3475
	160	3475	3475	3475	3475	3475	3475	3475	3475	3475	3475	3475	3475
12	10,10S	2300	325	375	425	475	525	625	725	825	925	1025	1125
	20	2375	475	550	625	700	800	925	1075	1225	1375	1525	1675
	30	2425	675	775	900	1025	1150	1325	1550	1775	1975	2200	2425
	STD,40S	2475	800	925	1050	1200	1375	1575	1825	2100	2350	2475	2475
	40	2500	875	1025	1175	1350	1525	1750	2050	2325	2500	2500	2500
	Xs,80S	2575	1175	1375	1575	1800	2025	2350	2575	2575	2575	2575	2575
	60	2725	1400	1625	1850	2125	2400	2725	2725	2725	2725	2725	2725
	80	2850	1875	2200	2500	2850	2850	2850	2850	2850	2850	2850	2850
	100	2900	2575	2900	2900	2900	2900	2900	2900	2900	2900	2900	2900
	120,XXH	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	140	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950	2950
	160	3025	3025	3025	3025	3025	3025	3025	3025	3025	3025	3025	3025



**Table 2: Maximum Allowable Pressures (MAP) cont.**

NPS Nominal Pipe Size	PIPE SCHEDULE	MAX PLUG BACK PRESSURE RATING (PSI) (NOT TO EXCEED)	MAXIMUM ALLOWABLE PRESSURE FOR GRIPSAFE PLUGS IN PIPE BASED ON PIPE YIELD STRENGTH - SELECT THE COLUMN BELOW THAT IS LESS THAN OR EQUAL TO PIPE YIELD STRENGTH (PSI) -										
			30000 PSI (A106 A)	35000 PSI (A106 B)	40000 PSI (A106 C)	46000 PSI (X46)	52000 PSI (X52)	60000 PSI (X60)	70000 PSI (X70)	80000 PSI (X80)	90000 PSI (4140HR)	100000 PSI (4140SR)	110000 PSI (P110)
14	10S	1925	275	325	375	425	475	550	625	725	800	900	1000
	10	1950	400	450	525	600	675	775	900	1025	1150	1300	1425
	20	1975	525	600	700	800	900	1025	1200	1375	1550	1725	1900
	30,STD,40S	2025	675	775	875	1025	1150	1325	1550	1750	1975	2025	2025
	40	2050	825	950	1100	1250	1425	1625	1900	2050	2050	2050	2050
	XS,80S	2100	1000	1150	1325	1500	1700	1975	2100	2100	2100	2100	2100
	60	2425	1275	1475	1675	1925	2175	2425	2425	2425	2425	2425	2425
	80	2550	1775	2075	2375	2550	2550	2550	2550	2550	2550	2550	2550
	100	2725	2525	2725	2725	2725	2725	2725	2725	2725	2725	2725	2725
	120	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750	2750
140	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	2800	
160	2825	2825	2825	2825	2825	2825	2825	2825	2825	2825	2825	2825	
16	10S	1950	225	250	300	325	375	425	500	575	650	700	775
	10	1975	300	350	400	475	525	600	700	800	900	1000	1100
	20	2000	425	475	550	625	700	825	950	1075	1225	1350	1475
	30,STD,40S	2025	525	600	700	800	900	1025	1200	1375	1550	1725	1900
	40,XS,80S	2100	775	900	1025	1175	1325	1525	1775	2050	2100	2100	2100
	60	2200	1125	1325	1500	1725	1950	2200	2200	2200	2200	2200	2200
	80	2300	1650	1925	2200	2300	2300	2300	2300	2300	2300	2300	2300
	100	2350	2250	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350
	120	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400	2400
	140	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
160	2525	2525	2525	2525	2525	2525	2525	2525	2525	2525	2525	2525	
18	10S	1725	175	200	225	275	300	350	400	450	525	575	625
	10	1750	250	300	325	375	425	500	575	650	750	825	900
	20	1775	325	400	450	500	575	650	775	875	975	1100	1200
	STD,40S	1800	425	500	550	650	725	825	975	1100	1250	1375	1525
	30	1825	525	600	700	800	900	1025	1200	1375	1550	1700	1825
	XS,80S	1850	625	725	825	950	1075	1225	1450	1650	1850	1850	1850
	40	1975	725	850	975	1125	1275	1450	1700	1950	1975	1975	1975
	60	2025	1100	1300	1475	1700	1925	2025	2025	2025	2025	2025	2025
	80	2100	1550	1800	2075	2100	2100	2100	2100	2100	2100	2100	2100
	100	2175	2150	2175	2175	2175	2175	2175	2175	2175	2175	2175	2175
120	2175	2175	2175	2175	2175	2175	2175	2175	2175	2175	2175	2175	
140	2275	2275	2275	2275	2275	2275	2275	2275	2275	2275	2275	2275	
160	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	2350	
20	10S	1550	175	200	225	275	300	350	400	450	525	575	625
	10	1550	200	250	275	325	350	400	475	550	600	675	750
	20,STD,40S	1600	350	400	475	525	600	700	800	925	1025	1150	1250
	30,XS,80S	1650	525	600	675	775	875	1025	1200	1350	1525	1650	1650
	40	1850	650	775	875	1000	1125	1300	1525	1725	1850	1850	1850
	60	1875	1025	1200	1375	1575	1775	1875	1875	1875	1875	1875	1875
	80	1925	1475	1725	1925	1925	1925	1925	1925	1925	1925	1925	1925
	100	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
	120	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050
	140	2075	2075	2075	2075	2075	2075	2075	2075	2075	2075	2075	2075
160	2125	2125	2125	2125	2125	2125	2125	2125	2125	2125	2125	2125	
24	10,10S	1300	150	175	200	225	250	300	350	400	450	500	550
	20,STD,40S	1325	250	300	350	400	450	500	575	675	750	825	925
	XS,80S	1350	375	425	500	575	650	750	850	975	1100	1225	1350
	30	1550	450	500	575	675	750	875	1000	1150	1300	1450	1550
	40	1575	575	675	775	875	1000	1150	1350	1525	1575	1575	1575
	60	1625	950	1125	1275	1450	1625	1625	1625	1625	1625	1625	1625
	80	1650	1350	1575	1650	1650	1650	1650	1650	1650	1650	1650	1650
	100	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
	120	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
	140	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
160	1825	1825	1825	1825	1825	1825	1825	1825	1825	1825	1825	1825	