

OPERATING PROCEDURES FOR ECONOMY TEST PLUGS**WARNING!**

- PRESSURE TESTING IS INHERENTLY DANGEROUS. STRICT ADHERENCE TO THESE OPERATION INSTRUCTIONS AND INDUSTRY SAFETY PRACTICES COULD PREVENT INJURY TO PERSONNEL.**
- ALL PERSONNEL MUST BE CLEAR OF TEST PLUG WHEN PRESSURE TESTING.**
- FOR SAFETY, AN INCOMPRESSIBLE LIQUID SUCH AS WATER SHOULD BE USED AS THE TESTMEDIUM. RESIDUAL AIR OR GAS IS TO BE EVACUATED FROM THE PIPE PRIOR TO TESTING.**

- The pipe to be tested must have an ID within the variance listed in table 1 below. Position the test plug in a clean, dry lubricant free pipe end with the whole seal within the pipe.
- Center the plug within the pipe. For plug sizes through 1-1/2" nominal hand tighten wingnut initially. Further tighten wingnut with pliers until plug is seated with a firm seal. For 2" nominal plug sizes and above, tighten hex nut until a firm seal is achieved.
- Begin pressure testing, never exceeding the pressures listed in Table 1 below.

**WARNING! KEEP ALL PERSONNEL CLEAR OF PLUG WHILE UNDER PRESSURE. DO NOT ATTEMPT TO ADJUST PLUG WHILE UNDER PRESSURE.**

- At the conclusion of the test, release **all** pressure from system, loosen nut, remove and inspect plug. Any plug that is worn or damaged should be replaced before attempting further testing. Contact factory for replacement plugs.
- Prior to storing, dry all parts of plug and lubricate the shaft threads. Keep these instructions with plugs.

**Table 1. Economy Test Plug Specifications**

Nominal Plug Size	Part Number Neoprene	Pressure Rating		Unexpanded Seal OD		Tube ID Range	
		(psi)	(Bar)	(in)	(mm)	(in)	(mm)
3/8	ECY-0046-N	35	2.4	0.43	10.9	0.44 to 0.50	11.2 to 12.8
1/2	ECY-0053-N			0.50	12.7	0.51 to 0.60	12.9 to 15.4
5/8	ECY-0063-N			0.60	15.2	0.61 to 0.70	15.5 to 17.9
3/4	ECY-0073-N			0.70	17.8	0.71 to 0.80	18.0 to 20.5
7/8	ECY-0083-N			0.80	20.3	0.81 to 0.90	20.6 to 23.0
1	ECY-0093-N			0.90	22.9	0.91 to 1.10	23.1 to 28.1
1-1/4	ECY-0113-N	15	1.0	1.10	27.9	1.11 to 1.30	28.2 to 33.2
1-1/2	ECY-0133-N			1.30	33.0	1.31 to 1.70	33.3 to 43.3
2	ECY-0173-N			1.70	43.2	1.71 to 2.10	43.4 to 53.5
2-1/2	ECY-0213-N			2.10	53.3	2.11 to 2.73	53.6 to 69.5
3	ECY-0273-N			2.70	68.6	2.74 to 3.25	69.6 to 89.1
4	ECY-0353-N	10	0.7	3.50	88.9	3.51 to 4.00	89.2 to 101.6

**QUESTIONS?** Contact EST Customer Service at any of the following locations with questions.

In USA and Canada: tel: 800-355-7044, fax: 215-721-1101, e-mail: [info@expansionseal.com](mailto:info@expansionseal.com)

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On the Internet: [www.expansionseal.com](http://www.expansionseal.com)

**Expansion Seal Technologies** is part of the EST Group of companies. **EST Group** provides a complete range of repair products, services and replacement parts covering the life cycle of tubular heat exchangers and condensers; additionally EST provides products and services to facilitate pressure testing pipe, piping systems, pressure vessels and their components. Visit EST Group on the internet at [www.estgrp.com](http://www.estgrp.com).



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**ECONOMY TEST PLUG PARTS LIST****P/N: ECY-XXXX-M**

Item	Quantity	Description	Part Number
1	1	Eye Bolt (3/8" through 3" IPS sizes)	
	1	Shaft Assembly (4" IPS size only)	
2	2	Compression Washer	
3	1	Seal	
4	1	Compression Tube (1/2" through 4" IPS sizes)	
5	1	Antigall Washer (4" IPS size only)	
6	1	Wingnut (3/8" through 1-1/2" IPS sizes)	
	1	Compression Nut (2" through 3" IPS sizes)	
7	1	Locknut (3/8" through 2" IPS sizes)	
	2	Jamnut (2-1/2" through 3" IPS sizes)	
	1	Hexnut (4" IPS size only)	

**NOTES:**

1. "XXXX" = SEAL Size
2. "M" is a Seal Material designation. The standard material is neoprene, or N. For other materials replace "M" with B for BUNA-N; N for NEOPRENE; S for SILICONE; and V for FLUOROELASTOMER (VITON® or equivalent).

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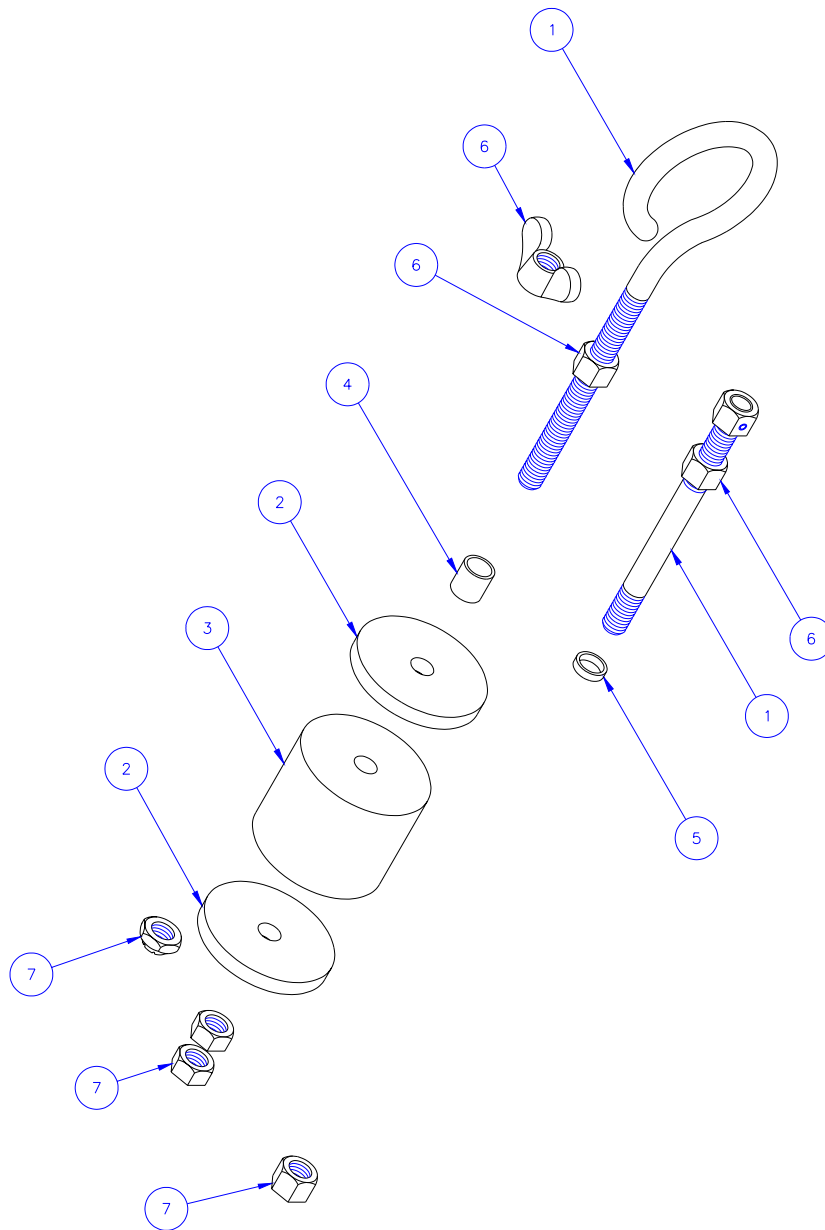
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SPECIALISTS IN TUBE TESTING, SLEEVING AND PLUGGING TECHNOLOGY

AN ISO-9001 REGISTERED COMPANY

# Economy Test Plugs



*Economy Test Plug*

*Bolt Type Test Plug*

*Auto Squat Test Systems*

*GripTight Test Plugs*

*High Lift Flange Test Plugs*

*Hydrostatic Test Plugs*

*For Low Pressure Testing  
Of Pipe and Tubing.*

*Test Pressures to 35 psig\**



Simply install the Economy Test Plug into the open end of a pipe or tube. Tighten the wing nut (2" to 3" sizes use a hex nut) to expand the seal. Begin pressure testing.

- **Heavy duty construction:** Plated carbon steel with neoprene seal elements.
- **Manufactured to fit pipe sizes 3/8" to 3"**
- **Long wearing Full Disk Seals:** Extend plug life.
- **Lightweight**

\* Maximum operating pressures have been determined by testing performed in clean, dry commercial grade carbon steel pipe. For maximum operating pressure in other applications, contact EST directly.



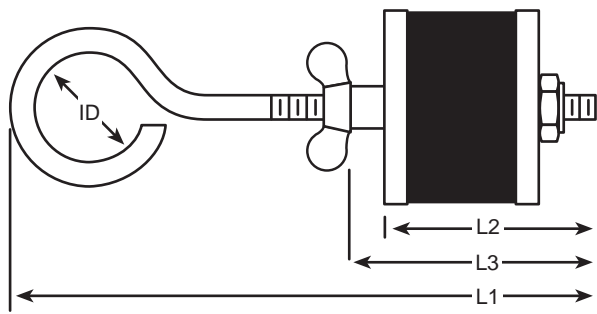
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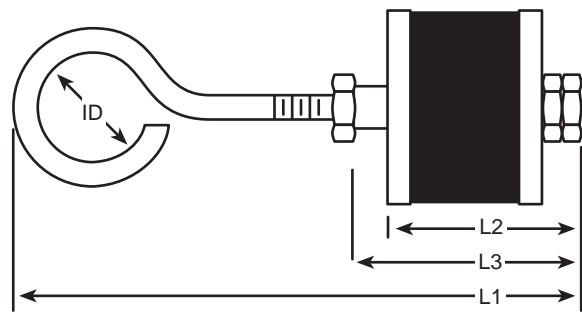
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Sizes 3/8" — 1-1/2"



Sizes 2" — 3"

Nominal Pipe Size	Plug Part No.	Unexpanded Seal OD	Bolt Dia. (in)	Eyebolt Eye ID (in)	Avg. Length (in) L <sub>1</sub>	Minimum Engagement Length (in) L <sub>2</sub>	Maximum Installation Length (in) L <sub>3</sub>	Max Operating Pressure (psi)**	Approx. Shipping Weight (lb)
3/8	ECY-0046-N	.43	3/16	3/8	2-1/2	1.11	1.11*	35	.06
1/2	ECY-0053-N	.50	1/4	9/16	4	1.62	2.12	35	.13
5/8	ECY-0063-N	.60	1/4	9/16	4	1.62	2.12	35	.13
3/4	ECY-0073-N	.70	1/4	9/16	4	1.62	2.12	35	.13
7/8	ECY-0083-N	.80	1/4	9/16	4	1.62	2.12	35	.13
1	ECY-0093-N	.90	1/4	9/16	4	1.62	2.12	35	.13
1-1/4	ECY-0113-N	1.10	3/8	1	6	1.81	2.31	15	.48
1-1/2	ECY-0133-N	1.30	3/8	1	6	2.06	2.56	15	.48
2	ECY-0173-N	1.70	3/8	1	6	2.06	2.56	15	.48
2-1/2	ECY-0213-N	2.10	3/8	1	7-1/2	2.88	3.38	15	1.57
3	ECY-0273-N	2.70	3/8	1	7-1/2	3.13	3.63	15	1.57

Specifications subject to change without notice.

\* No compression tube is used on 3/8" size.

\*\* Maximum operating pressures have been determined by lab tests performed in clean, dry commercial grade carbon steel pipe. For maximum operating pressures in other applications, contact EST directly.

Standard material: Plated carbon steel with neoprene seals.

## Ordering Information

When ordering, please specify the following information:

- Tube or pipe ID
- Maximum test pressure
- Temperature
- Fluid medium



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