

GripTight® Test Plugs vs. Welded End Caps

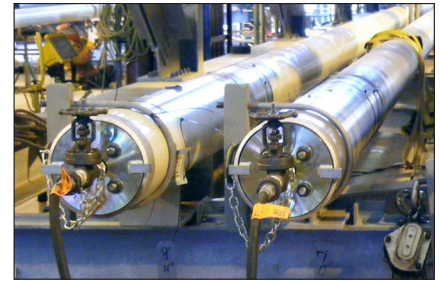
Comparison of Savings Using Test Plugs Over Welded End Caps

Welding end caps to perform testing of new and/or existing piping systems is a costly endeavor. GripTight Test Plugs' proven technology **routinely saves customers 80-90% in time and personnel costs** over welding on/cutting off end caps and/or test heads.

- **Time Savings** – Reduce up to 90% of the time pressure testing versus welding end caps.
- **Increase Productivity** – Complete 5 times more test packages weekly.
- **Reduce Manning** – Projects are already being completed with reduced staff. Switching to GripTight Test Plugs you can release welders to work on other profitable projects. *One socially distant pipefitter is all you need (up to 24" NPS sizes)!*

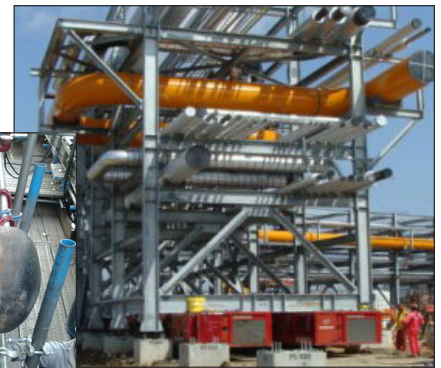
Equipment Required to Install Test Plugs

- Scaffolding
- 1 - Crane (8" plugs and up)
- 1 - Forklift / Bobcat
- 1 - Fitter



Equipment Required to Install Welded Test Caps

- Scaffolding (hoarding and heat may be required based on ambient temp)
- Pre-heat and PWHT equipment
- Cold cut equipment
- 1 - Crane (8" caps c/w 2' pipe and up)
- 1 - Forklift / bobcat
- 1 - Clamshell (1 required for each pipe size)
- 1 - Welder (2 required on larger pipe sizes and wall thicknesses - 12" and up)
- 1 - Fitter / helper



Typical Installation & Removal Times

NPS (DN)	Schedule	GripTight Test Plugs				Welded Caps				Labor Hours Saved per Pipe End
		Personnel Required	Installation Labor Hours	Removal Labor Hours	Total Labor Hours	Personnel Required (Welders & Fitters)	Installation Welding & Prep Time	Removal Cut Time	Total Labor Hours	
10" (DN250)	Std	1 fitter	0.25	0.25	0.5	1	1.5	0.5	2.0	1.5
	Sch 120	1 fitter	0.25	0.25	0.5	2	4.0	2.0	12.0	11.5
20" (DN500)	Std	1 fitter	0.25	0.25	0.5	2	4.0	1.5	11.0	10.5
	Sch 120	1 fitter	0.25	0.25	0.5	2	8.0	4.0	24.0	23.5
30" (DN750)	Std	1 fitter	0.25	0.25	0.5	2	5.0	2.0	14.0	13.25
	Sch 120	1 fitter	0.25	0.25	0.5	2	10.0	8.0	36.0	35.5