

H-150

High Temperature Corrosion Resistant FRP Pipe and Fittings

Stocked in multiple locations in the US and Canada Standard 100 mil corrosion barrier Complies with ASME NM.2 Complies with ASTM D5421 and ASTM D6041 Typical Applications: strong acids, brine solutions pulping liquors, chlorinated solutions oxidizing agents

Specifications

Resin: INEOS DERAKANE™ 510N (Brominated Epoxy Novolac Vinyl Ester)

Glass: 'ECR' Glass

Pressure Rating: 150 psi (10 BAR), testing per ASTM D1599

Maximum Test Pressure: 225 psi (15 BAR)

Surfacing Veil: Nexus

Temperature Range: -40°F (-40°C) to 200°F (93°C)

- All pipe, flanges, and fittings have a 100 mil corrosion barrier comprising one layer of veil (chemical barrier) and two layers of chopped strand glass (anti-wicking barrier).
- Manufactured via combination of contact molding and filament winding. Available in sizes 1" 120" diameter. Refer to our *Pipe Fitting and Dimensions Catalog* for dimensions.
- External resin coating containing paraffin and ultraviolet absorbers to assure proper surface cure and inhibit ultraviolet light degradation.
- Minimum Barcol hardness of 90% of resin manufacturer's specified value.



- Flanges available in either full face FRP or lap joint style. Drilling in accordance with ASME B16.5 Class 150.
- All pipe and fittings manufactured under a formal QA program certified in accordance with Quality Assurance Standard ISO 9001:2015.
- Pipe and fittings shall be shop or field assembled using either RPS matching tapered adhesive joints for sizes 1" 12", or butt joints, available in all sizes.



Specifications

Joining Systems					
Tapered Adhesive Joints	Butt & Wrap Joints				
Available with 100 mil lined 150 psi pipe systems 1" - 12"	Available with 100 mil lined 150 psi pipe systems, all diameters.				
Fittings are supplied with integral belled ends and pipe is supplied belled by plain end. Components are permanently bonded in the shop or field using RPS adhesive, formulated from the same type of resin used in fabrication of the pipe system liner.	 Pipe and fitting ends are sanded to prepare a good bonding surface. Components are aligned, "butted" together, and sealed with resin. A "wrap" is applied to permanently bond the components. The "wrap" is made up of layers of glass reinforcement saturated with resin. 				
The Tapered Adhesive joint requires less material without compromising strength and can be fabricated in half the time, resulting in significant savings on labor and installation costs. For the full list of benefits refer to <i>RPS Tapered Adhesive Joints - Benefits and Savings</i> found in the Company Literature section of our website.	 A variety of butt joint designs are available depending on the service conditions. These include straight, tapered, and edge capped. 				



RPS H-150 Pipe Dimensions							
Pipe Size	Inside Diameter	Liner Thickness	Structure Thickness	Total Thickness	Outside Diameter	Weight	
(in)	(in)	(in)	(in)	(in)	(in)	(lbs/ft)	
1	1.00	0.11	0.08	0.19	1.38	0.5	
1.5	1.50	0.11	0.08	0.19	1.88	0.9	
2	2.00	0.11	0.08	0.19	2.38	1.1	
3	3.00	0.11	0.08	0.19	3.38	1.6	
4	4.00	0.11	0.095	0.205	4.41	2.3	
6	6.00	0.11	0.13	0.24	6.48	4.1	
8	8.00	0.11	0.17	0.28	8.56	6.3	
10	10.00	0.11	0.21	0.32	10.64	8.9	
12	12.00	0.11	0.26	0.37	12.74	12.4	

H-150 Maximum Recommended Support Spacing at 150 psi						
NPS (in)	Single	e Span	Continuous Span			
	SG = 1.0	SG = 1.3	SG = 1.0	SG = 1.3		
1	6.9	6.7	10.3	10		
1.5	7.6	7.3	11.4	10.9		
2	8.2	7.9	12.2	11.7		
3	9.1	8.7	12.8	11.8		
4	10.2	9.7	13.4	12.2		
6	12.2	11.3	15.2	13.8		
8	14.1	12.9	17.4	15.8		
10	15.7	14.3	19.2	17.4		
12	17.3	16.3	21.8	20		

Notes:

- 1. Based on DF = 6 and maximum deflection = 0.5''
- 2. Support spacings apply up to 180°F (82°C). At 200°F (93°C), derate spacings by factor of 0.9.
- 3. Loads include internal pressure and weight of pipe and contents.

Collapse Pressure of H-150 Pipe					
NPS (in)	Collapse Pressure (psi)				
	180°F (82°C)	200°F (93°C)			
1	1295	1230			
1.5	512	487			
2	252	240			
3	88	84			
4	66	63			
6	54	51			
8	52	49			
10	51	49			
12	57	54			

Note:

For sustained exposure to external pressure (e.g. vacuum), a design factor of at least 4 should be used as required by ASME NM.2.

Pipe Supports

RPS offers a full line of pipe supports specifically designed to match RPS H-150 pipe. Refer to the *RPS Pipe Supports Catalog* at <u>rpscomposites.com/company-literature</u>.

Thermal Expansion

For recommendations on accommodating thermal expansion, refer to *RPS Design Manual*. For information on conducting a pipe stress analysis of H-150 piping, refer to *RPS Doc. No. E–433*, available from our Engineering Department.



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