

H-150-200

High Temperature Corrosion Resistant FRP Pipe and Fittings

Stocked in multiple locations in the US and Canada
Standard 200 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: C veil

Temperature Range: -40°F (-40°C) to 220°F (104°C)

- H-150-200 piping systems with a continuous operating temperature above 210°F (99°C) should be evaluated by RPS engineering to determine if the process conditions are acceptable.
- All pipe, flanges, and fittings have a 200 mil corrosion barrier comprised of two layers of veil (chemical barrier) and four 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.



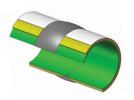
- Minimum Barcol hardness of 90% of resin manufacturer's specified value.
- Flanges available in either full face FRP or lap joint style.
 Drilling in accordance with ASME B16.5 Class 150.
- All pipe and fittings manufactured under a formal QA program certified in accordance with Quality Assurance Standard ISO 9001:2015.
- All pipe and fittings shall be shop or field assembled using straight butt joints.



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Specifications

Butt & Wrap Joints



- Available in all liner systems and pressure ratings.
- 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.
- A variety of butt joint designs are available depending on the service conditions. These include straight, tapered, and edge capped.

Detailed joining instructions are available in our *Installation Manual* at rpscomposites.com/company-literature



RPS H-150-200 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	0.22	0.08	0.30	1.60	0.9			
1.5	1.50	0.22	0.08	0.30	2.10	1.5			
2	2.00	0.22	0.08	0.30	2.60	1.9			
3	3.00	0.22	0.08	0.30	3.60	2.7			
4	4.00	0.22	0.095	0.32	4.63	3.8			
6	6.00	0.22	0.13	0.35	6.70	6.0			
8	8.00	0.22	0.17	0.39	8.78	8.9			
10	10.00	0.22	0.21	0.43	10.86	12.1			
12	12.00	0.22	0.26	0.48	12.96	16.2			

H-150-200 Maximum Recommended Support Spacing at 150 psi								
NPS	Single	Span	Continuous Span					
(in)	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 220°F (104°C), derate spacings by factor of 0.9.
- 3. Loads include internal pressure and weight of pipe and contents.

Collapse Pressure of H-150-200 Pipe								
NPS	Collapse Pressure (psi)							
(in)	180°F (82°C)	220°F (104°C)						
1	1295	1166						
1.5	512	461						
2	252	227						
3	88	79						
4	66	60						
6	54	48						
8	52	47						
10	51	46						
12	57	51						

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-150-200 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-150-200 piping, refer to *RPS Doc. No. E–880*, available from our Engineering Department.

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