

# A-150

# Corrosion and Abrasion 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, ASTM D6041

**Typical Applications** 

Limestone slurry Sludge Gypsum slurry
Titanium dioxide slurry Spent carbon slurry

Used in hundreds of installations in 20 countries around the world.

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### **Specifications**

Pressure Rating: 150 psi (10 BAR), testing per ASTM D2992

Maximum Test Pressure: 225 psi (15 BAR)

Temperature Range: -40°F (-40°C) to 180°F (82°C)

Resin: INEOS DERAKANE™ 411 (Bisphenol A Epoxy Vinyl Ester)

Surfacing Veil: C veil or Polyester (Nexus)

Glass: 'ECR' Glass

- All pipe, flanges, and fittings have a 100 mil thick corrosion / abrasion barrier comprising one layer of veil (chemical barrier) and two layers of chopped strand glass (anti-wicking barrier) in a specially formulated abrasion resistant resin matrix.
- 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 is pigmented grey and contains 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 based on 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.



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

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



HPPE A-150 in service as CCR piping at a US power utility.



HPPE A-150 in service as FGD process pipe at a US power utility.

RPS A-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		

A-150 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				

### **Pipe Supports**

RPS offers a full line of pipe supports specifically designed to match RPS A-150 pipe.

Refer to the *RPS Pipe Supports Catalog* at <u>rpscomposites.com/resources/</u> <u>company-literature</u>.

#### Notes:

- 1. Based on DF = 6 and maximum deflection = 0.5''
- 2. Support spacings apply up to 150°F (65°C). At 180°F (82°C), derate spacings by factor of 0.9.
- 3. Loads include internal pressure and weight of pipe and contents.

## **Specifications**

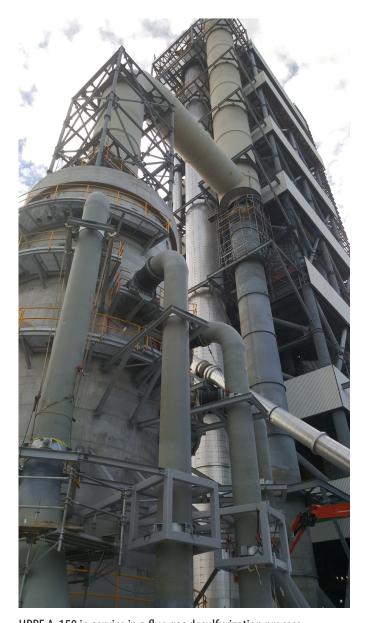
Collapse Pressure of A-150 Pipe							
NPS	Collapse Pressure (psi)						
(in)	150°F (65°C)	180°F (82°C)					
1	1295	1166					
1.5	512	461					
2	252	227					
3	88	79					
4	66	60					
6	54	48					
8	52	47					
10	51	46					
12	57	51					

#### 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.

#### **Thermal Expansion**

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



HPPE A-150 in service in a flue gas desulfurization process.

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RPSComposites.com/resources/company-literature

