

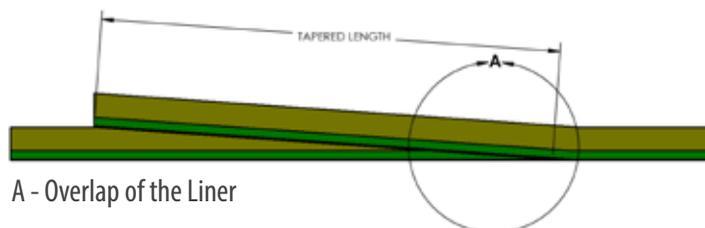
RPS Tapered Adhesive Joints



Benefits and Savings of Tapered Adhesive Joints

RPS Composites Tapered Adhesive Joint (TAJ) system is the lowest cost joining method for shop and field assembly of RPS Composites corrosion resistant pipe systems. Available with our P, H, and A series pipe systems in sizes 1" (25mm) through 12" (300mm), the tapered adhesive joint incorporates a matched fit between integral bell ends of pipe and fittings and machined tapers on the end of the adjoining pipe. This matched fit helps the joint to align during insertion and ensures a very thin adhesive line in the finished joint. All tapered adhesive joints are post cured with a heating collar to ensure full cure of the adhesive and to speed up installation time.

Pipe components are permanently bonded together using RPS corrosion resistant P-1500 or H-1500 adhesive formulated from the same resin as is used in the pipe corrosion barrier. The resulting joint has an overlap of corrosion barriers of the adjoining components.



Tapered Adhesive Joint Pipe to Fitting ↻



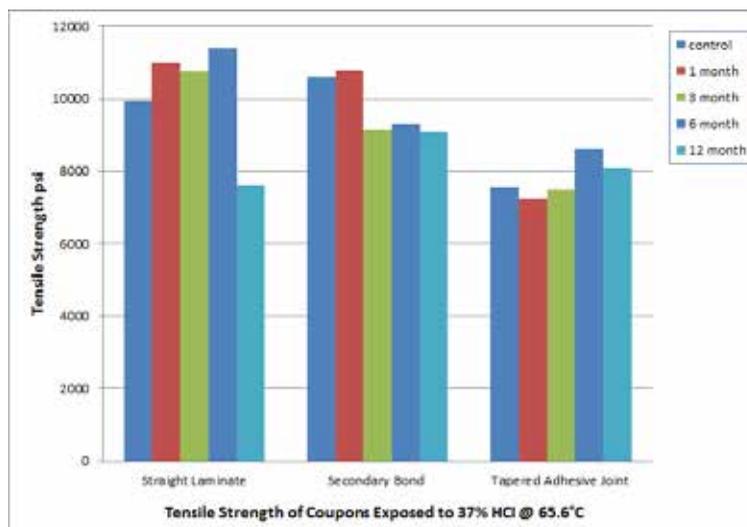
Tapered Adhesive Joint Pipe to Pipe ↻

RPS Composites tapered adhesive joint offers advantages over laminated butt joints without compromising corrosion resistance.

After 12 months of exposure to 37% HCl at 150°F. (65.6°C.), the tapered adhesive joint coupons retained all tensile strength, while the straight laminate and butt & wrap joint coupons lost 23% and 16% respectively, as seen on the graph below.

Advantages include lower cost joining materials and installation.

Heating Collar ↻

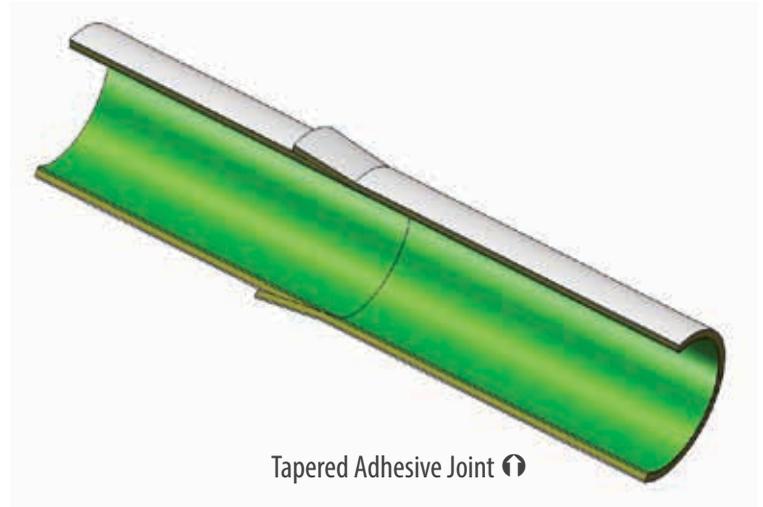


Benefits and Savings of Tapered Adhesive Joints

Joint Material Cost Comparison

Tapered Adhesive Joints vs. Butt Joints

Diameter	Tapered Adhesive	Butt Joints
	P-series	P-series
1"	\$1.75	\$23.20
1½"	\$1.75	\$23.40
2"	\$1.75	\$26.20
3"	\$2.10	\$29.60
4"	\$2.60	\$36.50
6"	\$5.20	\$51.10
8"	\$10.20	\$75.10
10"	\$10.20	\$114.30
12"	\$10.20	\$146.20



Estimated Joining Times (in minutes)

Tapered Adhesive Joint and Butt Joints

Dia. (inches)	Cut		End Prep		Assemble		Bond/Lay-up		Total Joint Time		Cure	
	TAJ	B&W	TAJ	B&W	TAJ	B&W	TAJ	B&W	TAJ	B&W	TAJ	B&W
1	2	2	1	5	3	7	5	15	11	29	50	180
1 1/2	2	2	1	5	3	7	5	20	11	34	50	180
2	2	2	1	7	5	10	10	30	18	49	50	180
3	2	2	1	10	5	10	10	30	18	52	50	180
4	2	2	3	10	7	10	10	30	22	52	50	180
6	3	3	4	15	10	15	10	35	27	68	50	180
8	5	5	7	30	15	25	15	40	42	100	70	180
10	10	10	10	30	15	25	15	40	50	105	70	180
12	10	10	10	30	20	30	20	80	60	150	70	220
14	-	10	-	45	-	30	-	140	-	225	-	220
16	-	15	-	60	-	40	-	180	-	295	-	240
18	-	15	-	80	-	40	-	200	-	335	-	240
20	-	20	-	100	-	45	-	240	-	405	-	280
24	-	20	-	120	-	45	-	300	-	485	-	280

Features and Benefits

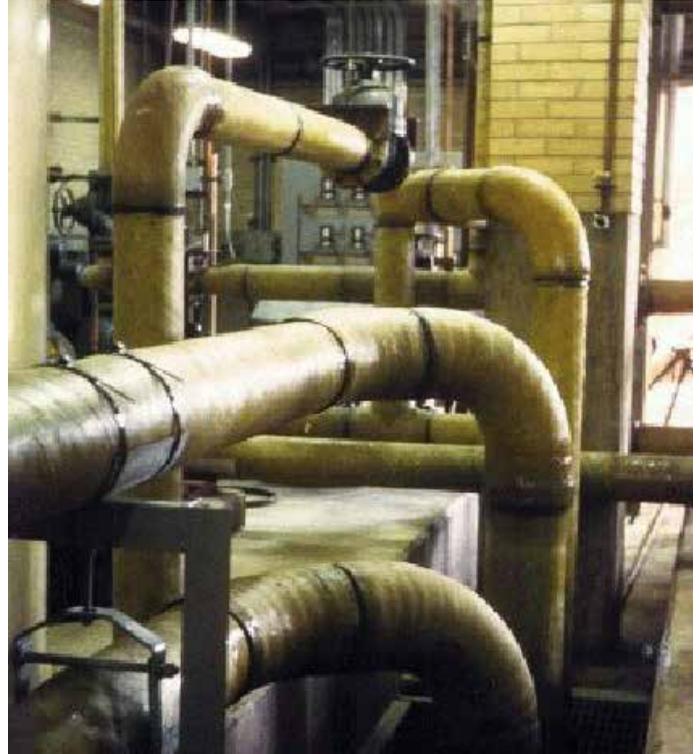
Features	Benefits
Matched Bell and Spigot	Self Aligning
Thin Adhesive Line	High Joint Strength
Two Part Premeasured Adhesive & Catalyst	Lower Joint Material Cost
Adhesive Bonded Joint	Lower Installed Costs

RPS offers piping systems with both Butt & Wrap and Tapered Adhesive Joints. Both systems have advantages and benefits. Below is a comparison of some of the major differences:

	Butt & Wrap Joints	Tapered Adhesive Joints
Advantages	<ul style="list-style-type: none"> A variety of corrosion barriers available Accommodates any liner thickness Hydro burst pressures of 500 to 1200 psi All resin types available 	<ul style="list-style-type: none"> Excellent corrosion resistance Continuous corrosion liner throughout pipe, fittings & joints Hydro burst pressures 1500+ psi A variety of resin choices Tapering Tool: <ul style="list-style-type: none"> - Vacuum dust control - Fast accurate field tapers (3" taper in 15 seconds) Pre-measured kits, no measuring Heat Cured Joints <ul style="list-style-type: none"> - Can be immediately placed in service - Complete cure of adhesive with post-cured pipe & fittings for maximum chemical resistance
Disadvantages	<ul style="list-style-type: none"> 2 – 3 times more expensive than tapered adhesive Highly trained/skilled work force required Dust generated during sanding Increased levels of hazardous materials at the job Requires accurate measuring of catalysts, etc. under field conditions Increased potential for inside diameter mismatch/gaps in corrosion barrier 	<ul style="list-style-type: none"> Tapering Tool required in field Limited to 1" to 12" sizes

Benefits and Savings of Tapered Adhesive Joints

FRP piping systems with Tapered Adhesive Joints by RPS Composites



Detailed joining instructions are available in RPS Composites' Installation Manual.

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