## **RPS Piping Joining Systems**



RPS Composites designs and fabricates piping systems for a wide range of fluid handling applications. These pipe systems are available with a number of different joining systems. The choice of the most appropriate joint for any application depends on a number of factors including chemical media, pressure, pipe diameter, liner thickness, and skill level of installation labor. Following are descriptions and typical

applications of the most commonly utilized joints for RPS piping systems. Detailed joining instructions are available in RPS Composites' Installation Manual. For specific recommendations, contact the RPS representative in your area or RPS sales department directly.

Tapered Adhesive Joints	Butt & Wrap Joint	Bell & Spigot O-Ring Joint	Flanges
Available with:	Available with:	Available in:	Available in:
• 100 mil lined 150 psi pipe systems 1" - 12"	All diameters, and combinations of pressure and liner thickness	• Sizes 8" dia. and larger for buried applications	• Full Face or Lap Joint Style in ALL sizes and pressures to 150 psi.
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 resin used in fabrication of the pipe systems liner.  Adhesive bonded joints are the lowest cost joining method for shop and field assembly of FRP pipe systems.	Butt & Wrap joints are very dependable joints for both shop and field assembly of RPS piping components.  Pipe and fitting ends are sanded to prepare a good bonding surface. Components are aligned, "butted" together, and sealed with a resin putty. A "wrap" is applied to permanently bond the components. The "wrap" is made up of layers of glass reinforcement saturated with resin.  Butt joints are custom designed to match the performance requirements of each piping system.  A variety of butt joint designs are available depending on the service conditions. These include straight, tapered, and edge capped.	RPS' Bell & Spigot O-Ring joints are primarily designed for pipe in buried applications. Above ground designs are available where individual pipe sections are restrained.  Pipe is supplied with an integral bell on one end and a machined spigot with O-Ring grooves on the other. Elastomeric O-Rings, installed in the spigot end, are compressed on a molded flat seating area when the spigot is inserted in the bell. The Bell & Spigot O-Ring joint is the most economical method of joining large diameter pipe.  The compacted soil around the pipe acts as an anchor for each pipe section, and thermal expansion is taken up in the joint area.	Full Face flanges are suitable for mating to flanges with full face contact.  Lap joint style flanges are specified for connections to raised face flanges and wafer style valves. Flange drilling available as ANSI, DIN, or custom.  Standard RPS FRP flanges are supplied with sealing rings on flange faces. Flanges without sealing rings are also available.  RPS flanges are joined to pipe and fittings by either Tapered Adhesive or Butt & Wrap joints.

Detailed Joining Instructions are available in RPS' Installation Manual