



Bondstrand®

Fiberglass Pipe Systems for Industrial Applications



CORROSION RESISTANT

LONGER LIFE

LIGHT WEIGHT

EASY TO INSTALL

LOW LIFE-CYCLE COST

LOW MAINTENANCE

LOW FLOW FRICTION

ABRASION RESISTANT

BONDSTRAND[®] FIBERGLASS PIPE SYSTEMS

Designs available for a wide range of applications

Variety of Resin Systems

Epoxy — For general purpose use, solvents, water, alkalis and many acids.

Vinyl Ester — For general purpose use, chlorine containing fluids and oxidizing acids.

Polyester — For general purpose use, water and waste water.

Variety of Designs and Features

Secondary Containment — Coaxial design or size-over-size available.

Abrasion Resistant — Specialized liner design - available to 200-mil. thick (5 mm) for slurry or fluid streams with particulates.

Electrically Conductive — Carbon fibers imbedded in structure to allow grounding of system to prevent static charge build up.

Fire Resistant — Additives or coatings available to inhibit flammability and flame spread for pipe or duct applications.

Pipe Stiffness — For conditions and diameters where vacuum collapse or deflection due to core construction of the pipe will provide resistance without adding significant cost.



BONDSTRAND® EPOXY PRODUCTS



SERIES	DIAMETERS INCHES	MAX. TEMP. °F	PRESSURE RATING (PSI)	JOINTS (SEE PAGE 5 FOR JOINT ABBREVIATIONS)	TYPICAL SERVICE
2000	1-16	250	230	QL, FL	General, potable water
2000MP	2-10	250	125	QL, FL	Condensate, hot water
2400	2-40	250	150-725	T/T, CL, FL	High pressure, process
3000A	2-16	210	150	T/T, PL, FL	General purpose
3000/L	2-6	150	100-250	T/T, FL, NPT	Fuel handling (non-retail)
3200A	2-16	210	200	T/T, PL, FL	General purpose
3200/L	2-16	150	200	T/T, PL, FL	Fire protection
3300A	8-16	210	300	T/T, PL, FL	Brine
3400	2-40	200	150-725	T/T, KL, FL	High pressure, process
4000	1-16	250	150	QL, FL	Corrosive chemicals
4100	2-16	250	150	QL, FL	Severely corrosive apps.
4100AR	2-16	250	150	QL, FL	Abrasive services
7000	1-16	200	230	QL, FL	Anti-static applications
GRE Coil-Lock	8-40	200	1000-3000	CL, T/T	Very high pressure transmission

NOTES: Series 2000, 3000/L 4000 and 7000 available with coaxial pipe walls (CX) for secondary containment. All series can be used with size-over-size containment. Series 4100 is available with an abrasion resistant liner (AR) and fittings may be ordered with 100- or 200-mil liner thickness. 2"-6" Series 2000, 4000 and 4100 pipe are supplied "no-shave", requiring no tools for installation.



Epoxy Products are the "Work Horses" of the Bondstrand Line



BONDSTRAND® VINYL ESTER / POLYESTER PRODUCTS

SERIES	DIAMETERS INCHES	MAX. TEMP. °F	PRESSURE RATING (PSI)	JOINTS (SEE PAGE 5 FOR JOINT ABBREVIATIONS)	TYPICAL SERVICE
5100	1-16	200	150	QL, HLU, FL	Chlorine, water purification
5100AR	1-16	200	150	QL, HLU, FL	Slurry (FGD), abrasive
LD RTRP	18-132	200	to 200	T/T, KL, FL, SOR, HLU	Odor control, seawater intake
LD RPMP	18-132	200	to 200	SOR, FL, HLU	Water treatment, municipal
Polyplaster	½-10	200	150	HLU, FL	Pulp and paper
C.A.M.	12-100	150	150	SOR, HLU, FL	Water, waste water

NOTES: Series 5100 is available with coaxial pipe walls (CX) for secondary containment. All series can be used with size-over-size containment.
 Series 5100 is available with an abrasion resistant liner (AR) and fittings may be ordered with 100- or 200-mil liner thickness.
 2"-6" Series 5100 and 5100AR pipe are supplied "no-shave", requiring no tools for installation.

APPLICATIONS TYPICAL OF BONDSTRAND VINYL ESTER AND POLYESTER PRODUCTS



COMMONLY USED CHEMICALS

SUBSTANCE	Temperature Limit (°F) for Piping Series			
	2000	3000A	4000/ 4100	5100
Alcohol, ethyl	180	150	180	NR
Ammonium chloride	270	210	270	200
Copper sulphate	220	210	220	220
Green liquor	180	150	200	NR
Hydrochloric acid (37%)	NR	NR	180	150
Nitric Acid (5%)	75	75	75	150
Phosphoric acid (85%)	100	NR	100	200
Sodium hydroxide (50%)	150	150	180	150
Sulphuric acid (50%)	100	NR	150	180
White liquor	150	150	200	150

NR - Not recommended

Bondstrand vinyl ester/polyester products come with a variety of standard liner thicknesses. Custom product designs are available to meet project requirements.

BONDSTRAND® FIBERGLASS PIPE SYSTEMS

Variety of joining methods

EXCLUSIVE!

Coaxial (CX) Pipe and Fittings

For services where hazardous fluids are conveyed below ground or overhead, contained piping may be required by local authorities. Bondstrand CX is the best product available.

Features include:

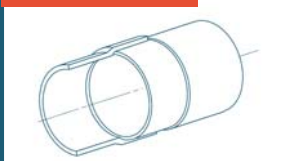
- Piping supports effective on both primary and secondary layers.
- Low volume interstitial space for early detection of problems.
- Compact profile.
- Layout and assembly very similar to single wall.
- Superior impact resistance (+400%).



Abrasion Resistant (AR) Pipe and Fittings

Bondstrand industrial pipe products are available with 100-mil AR liners. Fittings liners can be made up to 200-mil. For slurry, ash or other solids conveying systems, Bondstrand 4100AR (epoxy) or 5100AR (vinyl ester) are recommended.

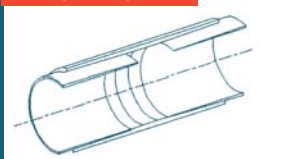
Quick-Lock®



— Quick-Lock® (QL)

Socket joint for installations requiring precise assembly dimensions.

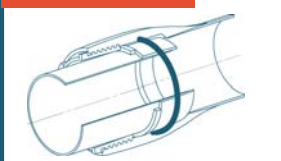
Taper/Taper



— Taper/Taper (T/T)

Bell x Spigot joint for high performance and thrust restraint.

Pronto-Lock® II



— Pronto-Lock® and Pronto-Lock® II (PL)

Fast make-up threaded joint for long lines with few fittings.

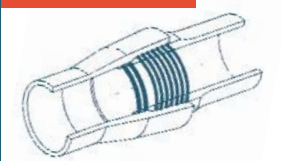
Key-Lock®



— Key-Lock® (KL)

Push/pull together joint with locking key for thrust restraint.

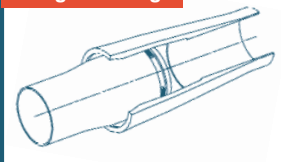
Coil-Lock®



— Coil-Lock® (CL)

Very high pressure joint design with fast assembly and gasket seal.

Single O-Ring



— Single O-Ring (SOR)

Push-on joint with no thrust restraint. Used for buried transmission lines.

Two-piece flange



— Flanged (FL)

One and two piece (Van Stone) styles available in both standard and heavy duty designs for use with flat or profiled gaskets against flat or raised face mating flanges.

Butt & wrap



Hand Lay-Up

— Butt and Wrap (HLU)

Laminated joint for factory or field fabrication of manifolds, custom spools or systems handling extremely aggressive chemicals.

LEADING PRODUCER

Ameron Fiberglass-Composite Pipe Group is a leading producer of fiberglass pipe systems. Ameron offers the world's most comprehensive line of fiberglass pipe products for chemical industrial, oil and gas, offshore, marine and fuel handling applications.

CUSTOMER SUPPORT

Ameron provides a high degree of customer support through a network of sales offices, supply houses, stocking distributors and sales representatives in more than 100 countries. This is supported by research and development facilities, to meet customer requirements.

EXPERTISE AT EVERY STAGE

Ameron Fiberglass-Composite Pipe Group offers advice and support at every stage, from project planning to installation. With advanced software, Ameron can offer assistance in design, calculations and engineering.

Ameron field service engineers are available to assist the contractor or customer throughout the project.

WORLDWIDE APPROVALS

Committed to Total Quality Management, Fiberglass Pipe Group manufacturing facilities conform to the ISO 9001 standard and holds many approvals.



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FITTINGS

Ameron manufactures a full range of fittings for each of its pipe systems, along with formulated adhesive and lamination systems to serve the full product line.



MOLDED
Available in 2"-6"
diameter for use with
Quick-Lock and
Taper/Taper joints.



MITERED
All fittings over 16"
and many smaller
"special" fittings are
made by this method.



FILAMENT WOUND
Many available in 1"-16"
diameters with Quick-
Lock, Pronto-Lock II,
Key-Lock and
Taper/Taper joints in
virtually all series.



LAMINATED
Fittings for Polyplaster
series are made by
contact molding
process throughout the
structure of the part.

NOTE: Fittings construction methods vary for each series.
All types are not available for all series.

BONDSTRAND® ADHESIVES

- PSX-34** – Epoxy adhesive for general purpose.
- PSX-60** – Epoxy adhesive for bonding electrically conductive fiberglass pipe and fittings.
- RP105B** – Vinyl ester adhesive for bonding fiberglass pipe and fittings.



WORLDWIDE NETWORK

Ameron Fiberglass-Composite Pipe Group is an international group with manufacturing facilities in Burkburnett and Mineral Wells, Texas (USA), Geldermalsen (The Netherlands), Betim (Brazil), Singapore and Senai (Malaysia). Ameron Fiberglass-Composite Pipe Group sales offices are also located in Houston (USA), Middle East (Dubai) and China. Sales representatives in over 100 countries.



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