Silver Streak™ LD Piping System

(Specification Guide)

CHEMICAL & INDUSTRIAL

Section 1 - Scope

This section covers the use of fiberglass reinforced plastic (FRP) pipe for medium duty slurry service such as limestone slurry up to 200°F and up to 150 psig pressure.

The piping shall be furnished and installed complete with all fittings, joining materials, supports, specials, and other necessary appurtenances.

Section 2 - General Conditions

2.01 Coordination - Material furnished and work performed under this section shall be coordinated with related work and equipment specified under other sections.

Valves	Section	_____
Supports	Section	_____
Equipment	Section	_____

2.02 Governing Standards - Except as modified or supplemented herein, all materials and construction methods shall comply with the applicable provisions of the following specifications and be tested using the following standards.

Standard Test Methods

ASTM D1599	Standard Test Method for Short-Time Hydraulic Failure Pressure of Plastic Pipe, Tubing and Fittings
ASTM D2105	Standard Test Method for Longitudinal Tensile Properties of "Fiberglass" (Glass-Fiber-Reinforced-Thermosetting Resin) Pipe and Tube
ASTM D2412	Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
ASTM D2925	Standard Test Method for Measuring Beam Deflection of Reinforced Thermosetting Plastic Pipe Under Full Bore Flow

2.03 Quality Assurance - Pipe manufacturer's quality program shall be in compliance with ISO 9001.

2.04 Delivery, Storage and Handling - Pipe and fittings shall be protected from damage due to impact and point loading. Pipe shall be properly supported to avoid damage due to flexural strains. The contractor shall not allow dirt, debris, or other extraneous materials to get into pipe and fittings. All factory machined areas shall be protected from sunlight until installed.

2.05 Acceptable Manufacturers - NOV Fiber Glass Systems, (501) 568-4010, or approved equal.

Section 3 - Materials and Construction

3.01 30"-48" Pipe - The pipe shall be manufactured by the filament winding process using a vinyl ester or epoxy thermosetting resin to impregnate strands of continuous glass filaments, which are would around a mandrel at a 54 ¾° winding angle under controlled tension. Pipe shall be heat cured and the cure shall be confirmed using a Differential Scanning Calorimeter.

All pipe shall have a resin-rich corrosion/abrasion resistant barrier. The minimum acceptable cured thickness of the corrosion/abrasion barrier shell be 100 mils nominal.

Pipe 30"- 48" shall be supplied plain end.

3.02 Flanges and Fittings - All fittings shall be manufactured using the same type materials as the pipe. Fittings may be manufactured either by compression molding, spray-up/ contact molding, or filament winding methods.

All fittings, except compression molded, shall have a minimum corrosion/abrasion barrier of 100 mils.

All elbows shall have a minimum radius of 1 ½" diameter

Fittings shall be adhesive bonded matched tapered bell and spigot, flanged or butt and wrap.

Flanges shall have ANSI B16.5 Class 150 bolt hole patterns.

3.03 Adhesive - Adhesive shall be manufacturer's standard for the piping system specified.

3.04 Gaskets - Gaskets shall be 1/4" thick, 60-70 durometer full-face type suitable for the service shown on the drawings and as recommended in the manufacturer's standard installation procedures.

3.05 Bolts, Nuts and Washers - ASTM A307, Grade B, hex head bolts shall be supplied. Washers shall be supplied on all nuts and bolts.

3.06 Acceptable Products - Silver Streak LD as manufactured by NOV Fiber Glass Systems, or approved equal.

Section 4 - Installation and Testing

4.01 Training and Certification - All joints installed or constructed in the field shall be assembled by employees of the contractor who have been trained by the pipe manufacturer. The pipe manufacturer or their authorized representative shall train the contractor's employees in the proper joining and assembly procedures required for the project, including hands-on training by the contractor's employees. Each bonder shall fabricate one pipe-to-pipe and one pipe-to-fitting joint that shall pass the minimum pressure test for the application without leaking.

Only bonders who have successfully completed the pressure test shall bond pipe and fittings.

Certification by the manufacturer shall be in compliance with ASME B31.3, Section A328.2 for the type of joint being made.

4.02 Pipe Installation - Pipe shall be installed as specified and indicated on the drawings.

The piping system shall be installed in accordance with the manufacturer's current published installation procedures.

4.03 Testing - When testing 30" and larger pipe, a steady pressure test shall be conducted on the completed piping system. The pipe shall be subjected to a steady pressure test at 1½ times the design operating pressure as shown on the drawings.

Test pressure shall not exceed 1½ times the maximum rated pressure of the lowest rated element in the system.

The system shall be filled with water at the lowest point and air bled off from the highest point. Systems shall be brought up to test pressure slowly to prevent water hammer or over-pressurization.

All pipe joints shall be water tight. All joints that are found to leak by observation or during testing shall be repaired by the contractor and retested.

Fiber Glass Systems
17115 San Pedro Avenue, Ste 200
San Antonio, Texas 78232 USA
Phone: 210 477 7500
Fax: 210 477 7560

CI1421ENG August 2016