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CAST BASALT LINED STEEL PIPE (BASRAMITE)
STANDARD SPECIFICATION

PIPEWORK - GENERAL: Each assembly will be fabricated with a steel outer shell and will be capable of withstanding 150 p.s.i. internal pressure. All welds will be continuous with full penetration. Fillet welds will be a minimum 1/4" with no undercut. For engineering purposes, the O.D. can be considered to be 3" greater than the I.D.

STRAIGHT PIPES: Straight pipe sections will be fabricated from .134" thick spiral butt welded mild steel pipe manufactured to ASTM A-139 Grade B and lined with 22mm +0/-2mm thick spun cast basalt liners. Each liner will be cast in approximately 20" long sections. Liners will be joined with an epoxy adhesive which is acid and chemical resistant (ph range 3-12 at 100°F) or a product suitable to the application. The joined liners will be grouted into the mild steel shell with a Portland cement/ fly ash mixture. The liner will be centered inside the steel shell.

ELBOWS: Elbows will be fabricated from .134" thick straight seam buttwelded pipe and lined with 22mm +0/-2mm thick basalt. The jointing and grouting material will be identical to the straight pipes. Standard elbow radii will be as noted below:

Short Radius	-	750mm radius = 29.1/2" radius
Medium Radius	-	1,000mm radius = 39.3/8" radius
Long Radius	-	1,500mm radius = 59" radius
Extra Long	-	2,000mm radius = 78.3/4" radius

CONNECTIONS: BASRAMITE pipe and fittings can be joined using fixed flanges (CBP's preferred and recommended joint), rotating flanges, dresser couplings, victaulic couplings or weldable rings. Connections to most pipe such as steel, cast iron, etc., can be accommodated.

TOLERANCES: All BASRAMITE pipe and fittings will have the following tolerances:

Fractional Dimensions	± 1/16 (except pipe length)
Pipe Length	± 1/8"
Decimal Dimensions	as shown on drawings
Angles	± 1/2°

WEIGHTS: BASRAMITE pipe (lbs./ft.)

I.D.	-	3"	4"	6"	8"	10"	12"	14"	16"	17"	18"	19"	20"
Lbs.	-	27	34	47	58	75	80	96	117	120	124	134	145

MARKING OF PIPE: Each item will be permanently marked during manufacture by means of a weld deposit item number which corresponds to the installation drawing. Stock or spare items can be tagged or stenciled with the customer's reference number.

PROTECTION OF PIPE: Pipework will be painted with two (2) coats of a rust preventative primer. Prior to painting, all fabrication be completed and surfaces will be clean of rust, moisture, grease, burrs and other imperfections. For wet slurry applications where corrosion may be a problem, the inside of the steel shell can be coated with Bitumen paint as required. Other exterior coatings such as coal tar epoxy can be accommodated.

TRANSPORTATION: All pipe and fittings will usually be loaded and shipped on flatbed trucks. The load will be blocked and secured to prevent shipping damage. Other smaller items, such as single fittings, will be palletized and shipped via common carrier.

GENERAL: BASRAMITE pipe can be supplied in various standard I.D.'s starting at 2". Sizes up to 20"ID are supplied in 1" increments. Sizes over 20"ID can be supplied to the required ID.

Elbows can be specially manufactured with any radius or degree of bend.

Straight pipe can be supplied in lengths from 6" up to our standard 18'-0" spools. In certain cases, the 18'-0" length can be exceeded.

Piping can be supplied with inspection openings, clean outs, instrument connections, etc., as required.

GENERAL INFORMATION

FRictional Characteristics: Unlike other materials which roughen as solids pass over it, BASRAMITE develops a high polish. BASRAMITE linings develop the high polish after only a few weeks of operation. The improved flow characteristics achieved with BASRAMITE virtually eliminate costly plugging or hang up problems.

TEMPERATURE RESISTANCE: BASRAMITE will withstand temperatures up to 840°F when not subjected to severe thermal shock. Some surface crazing may appear at this temperature, but the wear properties are not affected. Recommended max. operating temperature is 500°F when suitable jointing and grouting materials are utilized in the pipe assembly.

EFFECT OF EXCESSIVE PRESSURE: If the internal pressure builds up due to equipment malfunction, line blockage or water hammer, the failure of BASRAMITE lined pipe occurs by plastic failure of the outer shell causing fracture and cracking of the liner. Pipe is tested to ASTM A-139 Gr. B specification or to your requirements.

IMPACT RESISTANCE: BASRAMITE does not have a resistance to impact although it's resistance can be greatly improved by proper component design. BASRAMITE lined pipe sections can be dropped from as much as 8 feet without damage.