



CAST BASALT PIPES & FITTINGS for handling corrosive & abrasive materials

AIR SYSTEM offers a comprehensive range of lining materials designed to combat erosion specially in Ash Handling area in association with our overseas partners, who have vast experience in the field. We initially import Cast Basalt tiles and cylinders from our technology partner and carry out further manufacturing activities at our end. We supply the full range of abrasion resistant lined pipes including Straight Pipe, Bends and Elbows, Reducers, Tees and Y-pieces. We also offer Composite Ceramic Pipes for standard Dry/wet ash conveying system.

For Cast Basalt Products, Air System is associated with a well equipped, modern manufacturing Company of China. We carry out other manufacturing operations, including fixing of Tiles and Cast Basalt Cylinders in the casing pipe, with the technology provided by our partner. We are conveniently located at Sipcot Industrial Complex near Chennai.

As far as our Technology Partner "Pengalai Cast Basalt Co, China" is concerned, they have been in this field for more than 2 decades and their products are being used by large number of Thermal Power Plants of 600MW, 200MW, 300MW units., beside other process industries. They are located on North West China and have produced over 60000 tonnes of Cast Basalt items both for China and abroad.



Cast Basalt is a neo-volcanic eruptive rock which is cast in a method similar to that of cast iron. After careful annealing it forms a re-crystallized black ceramic of extreme hardness and abrasion resistance. In addition it will withstand temperatures up to 800° F. The life of cast basalt is 4 times more than Ni-hard steel. Unlike other materials which roughen as solids pass over it, cast basalt develops a high polish. Its slick surface allows materials to flow freely which eliminates hang ups and blockages. It can withstand up to 450°C & can be supplied any different shapes & sizes.

For its use as a pipe work lining the cast basalt is cast into cylinders. The cylinders are typically inserted into steel shell and secured with cement. The exterior casing can be spiral welded pipe or standard ERW pipes.



Comparative Chart

| Materials | Thickness mm | Life Cycle Months |
|--------------------|--------------|-------------------|
| Mild Steel | 12 | 4 – 6 |
| Cast Iron | 20 | 8 – 10 |
| Alloy Steel Plates | 12 | 10 – 12 |
| Ni-hard | 20 | 15 |
| High Alumina | 20 | 36 |

Features

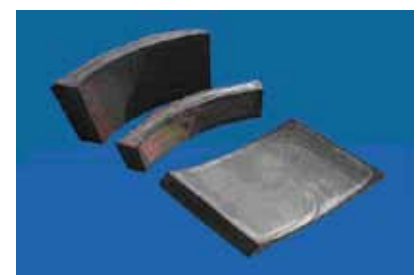
- Acid / Alkali Resistant
- Resistance to corrosion
- 8 on the mohs hardness scale
- Service temperatures up to 700°F
- Smooth surface for favorable flow
- Available in straight pipe and fittings

Benefits

- Long life in abrasive and corrosive applications
- Improved performance compared to other linings
- Excellent service life at cost-effective pricing
- 8 to 10 times more life cycle than cast iron

Properties of Cast Basalt

| | |
|--------------------------------------|--|
| Specific Gravity (referred to water) | 2.9 – 3.0 gm / cc |
| Compressive strength | 78,000 lb. / in ² |
| Tensile Strength | 5,100 lb. / in ² |
| Bending Strength | 6,000 lb. / in ² |
| Hardness | 8 MOHS |
| Water Absorption | 0% |
| Thermal Expansion | 75-80 x 10 ⁻⁷ inch / °C per ft. |
| Abrasion | 0.4 mm material loss |



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