

Non Water Tap Hole Clay

| HX NON-WATER TAP HOLE CLAY | | | | | | | |
|----------------------------|--------------------------------|-----|-----|-------------------------|-------------|-------------------|-----------------------------------|
| Item | Chemical Composition | | | (MPa) Crushing Strength | | Linear Change (%) | Bulk Density (g/cm ³) |
| | Al ₂ O ₃ | SiC | F.C | 300°C x 24h | 1350°C x 3h | | |
| HX-PN1 | 50 | 18 | 18 | 4 | 4.5 | ±2.0 | 1.8 |
| HX-PN2 | 30 | 10 | 10 | 8 | 4.5 | ±2.0 | 1.7 |
| HX-PN3 | 25 | 4 | 8 | 10 | 4.5 | ±2.0 | 1.65 |

HX Type Tap Hole Clays are patented products made with special additives and new binders having the advantages of;

Reduced air pollution because of no yellow smoke during usage.

High Strength; resistance to Slag and Iron ware

Tap Hole Clay saver; quick opening, tight sealing, saves from labor cost

Keeps depth stable, insures complete iron and slag discharge at constant speed

It can be used in various Blast Furnaces

We can offer different specifications according to Customer's need.

Gunning Repair Mix

- Excellent Integrity
- Longer Service Life

| Item | | General Gunning Repair | Hot Gunning Repair | Wet Gunning Repair | Wet Gel Gunning Repair |
|------------------------|----------------------------------|------------------------|--------------------|--------------------|------------------------|
| Brand | | HXP-W1 | HXRP-1 | HXP-W2 | HXP-W3 |
| Chemical Composition % | Al ₂ O ₃ > | 40 | 45 | 55 | 70 |
| | SiO ₂ < | 45 | 45 | 35 | 5 |
| | Fe ₂ O ₃ < | 2 | 2 | 2 | 1 |
| | SiC> | | | | 15 |

| | | | | | |
|-----------------------------------|---------------|--------------------|--------------------|-------------------|-------------------|
| Apparent Porosity | | 25 | 25 | 25 | 20 |
| Bulk Density (g/cm ³) | | 2.0 | 2.1 | 2.4 | 2.7 |
| Crushing Strength (MPa) | Dry | 25 | 30 | 100 | 22 |
| | After Heating | 30 | 50 | 150 | 40 |
| Bending Strength (MPa) | Dry | 4 | 8 | 15 | 4 |
| | After Heating | 7 | 12 | 20 | 10 |
| Linear Change % | | (1000°C,1h)>7 | (1000°C, 3h)<-0.2 | (1000°C, 3h)<-0.4 | (1000°C, 3h)<-0.4 |
| MPa | | (600°C,1h)<-0.2 | (1000°C, 1h)>7 | (1000°C, 1h)>7 | (1000°C, 1h)>20 |
| Remarks | | Add to accelerator | Add to accelerator | Premixed | Premixed |

Castable For Bf Runners

| CASTABLES FOR THE RUNNER OF MID SIZE BLAST FURNACES | | | | | | | | | |
|---|--------------------------------|-----|-----|------------------------|-----------|-------------------------|-------------|---------------------|-----------------------------------|
| Item | Chemical Composition (%) | | | Bending Strength (MPa) | | Crushing Strength (MPa) | | Linear Exchange (%) | Bulk Density (g/cm ³) |
| | Al ₂ O ₃ | SiC | F.C | 110°Cx24h | 1450°Cx3h | 110°C x 24h | 1450°C x 3h | | |
| HXG-T1 | 60 | 12 | 2 | 3 | 4.5 | 25 | 45 | ±0.5 | 2.75 |
| HXG-Z1 | 50 | 25 | 2 | 3 | 4.5 | 20 | 30 | ±0.5 | 2.65 |
| HXF-T2 | 55 | 10 | 2 | 3 | 4.5 | 25 | 45 | ±0.7 | 2.35 |
| HXF-Z2 | 45 | 25 | 2 | 3 | 4.5 | 20 | 30 | ±0.7 | 2.35 |
| | | | | | | | | | |

HXG-T1 and HXG-Z1 are Corundum Castables for Iron Line& Slag Line of Main Runner of Mid Size Blast Furnaces
HXF-T1 and HXF-Z1 are Bauxite Castables for for Iron Line& Slag Line of Main Runner of Mid Size Blast Furnaces
High quality and high strength castables for runner are produced with dense corundum or high quality bauxite chamotte,
SiC as main material, micro powder as binder and compound additives. HXG-T1 and HXG-Z1 are Corundum Castables for
Iron & Slag Line of the Runner meeting the requirements of mid size Blast Furnaces.

Hot Metal throughput is between 120.000 - 180.0000 t.

| CASTABLES FOR THE RUNNER OF LARGE VOLUME BLAST FURNACES | | | | | | | | | |
|---|--------------------------------|-----|-----|------------------------|-----------|-------------------------|-------------|---------------------|-----------------------------------|
| Item | Chemical Composition (%) | | | Bending Strength (MPa) | | Crushing Strength (MPa) | | Linear Exchange (%) | Bulk Density (g/cm ³) |
| | Al ₂ O ₃ | SiC | F.C | 110°Cx24h | 1450°Cx3h | 110°C x 24h | 1450°C x 3h | | |
| HXTG-T Iron Line | 60 | 12 | 2 | 3.5 | 5 | 25 | 45 | ±0.5 | 2.8 |
| HXTG-Z Slag Line | 50 | 30 | 2 | 3.5 | 5 | 20 | 30 | ±0.5 | 2.7 |

Applied in Iron Line and Slag Line of Main Runners of Large Volume Blast Furnaces

High quality and high strength castables for runner are produced with corundum, SiC as main material, micro powder as binder and compound additives. It is applied in Iron & Slag Line of Main Runner of Large Volume Blast Furnaces.

Hot Metal throughput is more than 200.000 t.

Other Unshaped Refractory

HX high strength Fibre Gunning Mixes are developed from general dry type spray coating mixes

HX improves the insulating performance. Therefore;

Lowers the heat losses effectively. The shell does not over heat while the hot air temperature increases inside. The refractories are gunned on the surface with high pressure machines to form strong bond between the Fibre and the Refractory.

The gunned layer has high strength, yet it is light in weight

1. Low rebounded elasticity less than 18%
2. Helps reduce the heat losses of BF and Hot Stove. Economic because of the extended Service Life

| Brand | Chemical Composition (%) | °C | Bulk Density g/cm ³ | Linear Change (%) | | Crushing Strength | Bending Strength | Thermal Conductivity W/m.k | |
|----------|--------------------------------|------|--------------------------------|-------------------|-----------|-------------------|------------------|----------------------------|----------|
| | Al ₂ O ₃ | | | 1150°Cx3h | 1200°Cx3h | | | 110°C | 110°C |
| HXGS-1 | 42-48 | 1200 | 0.9-1.05 | -2.8 | | 3 | | 0.08-0.09 | |
| HXGS-1.3 | 38-45 | 1400 | 1.1-1.3 | | -3.0 | 10 | 2.5 | | 0.2-0.27 |