



PRODUCT DATA SHEET

75mm Aggregate

Product Code: ABF 275

Definition:

Blast furnace slag is the non-metallic product consisting essentially of silicates and aluminosilicates of calcium and other bases, that is developed in a molten condition simultaneously with iron in a blast furnace.

Air-cooled blast furnace (ABF) slag is a predominantly crystalline, solid rock-like material.

Process:

Molten slag is either directed into pits adjacent to the furnace or run into pots, then tipped into bays and allowed to solidify under atmospheric conditions. Cooling may be accelerated by application of water to the solidified surface, after which the slag is dug, crushed and screened to produce various products including 75mm Aggregate.

Description:

75mm Aggregate is a fine grained, grey coloured rock type consisting of angular to roughly cubical shaped particles with a characteristically vesicular structure and rough surface texture.

Applications:

Civil works projects including:

- ◆ Embankment fill
- ◆ Gabion mattress
- ◆ Sub-grade replacement
- ◆ Filter medium

Advantages:

- ◆ Interlocking particle shape
- ◆ Resistant to weathering
- ◆ Dependable quality
- ◆ Lower unit weight
- ◆ Lower transport costs

Advantages in Civil Works:

- ◆ High stability
- ◆ High durability
- ◆ Free draining
- ◆ Lower tonnages required

Environmental Value:

- ◆ Effective utilisation of an industrial by-product
- ◆ Conserves natural resources and preserves natural landscape
- ◆ Reduces the need for landfill sites
- ◆ Reduces energy consumption

Chemical Properties:

Blast furnace slag is composed of silicates and aluminosilicates, but for ease of reporting oxide equivalents are used and fall within the relatively narrow limits given below:

CONSTITUENT	SYMBOL	%
Iron Oxide	FeO	<1.3
Calcium Oxide	CaO	38 – 43
Silicon Dioxide	SiO ₂	32 – 37
Aluminium Oxide	Al ₂ O ₃	13 – 16
Magnesium Oxide	MgO	5 – 8
Titanium Dioxide	TiO ₂	<1.5
Manganese Oxide	MnO	<1.0
Potassium Oxide	K ₂ O	<1.0
Sulphur	S	<1.0
Sodium Oxide	Na ₂ O	<0.5
Chloride Ion	Cl	<2000ppm

Typical Grading:

SIEVE (mm)	% PASSING
90.0	100
75.0	95-100
37.5	0-8
19.0	0-3

Typical Physical Properties:

Bulk Density (Loose)	1.10-1.20 t/m ³
(Compacted)	1.20-1.30 t/m ³
Material Finer than 75µm	<2%
Misshapen Particle (2:1)	<10%
(3:1)	<2%
Fractured Faces	100%
Dry Strength	>70kN
Wet Strength	>60kN
Variation	<25%
Los Angeles Value	<45
Sodium Sulphate Soundness	<2%
Iron Unsoundness	Free

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