



Technical Data Sheet

Cast Bond®

Cast Bond is a low viscosity natural sodium bentonite blended with activated sodium bentonite exhibiting variable dry particle size.

Functional use: general purpose is green sand mold additive. Cast Bond imparts excellent dried and fired strengths to molding sand where high temperature pouring or firing occurs. This is applicable to both the foundry industries.

Purity: Hydrous silicate of alumina comprised principally of the clay mineral montmorillonite. Montmorillonite content 80% minimum. Contains small portions of feldspar biotite, selenite, etc.

Chemical Composition (% by weight)

Silica (SiO ₂)	52-57
Alumina (Al ₂ O ₃)	15-19
Iron Oxide (Fe ₂ O ₃ , FeO)	2.7-4.0
Magnesium (MgO)	2.3-2.9
Sodium & Potassium (Na ₂ O, K ₂ O)	1.4-2.4
Lime (CaO)	1.0-3.0

Physical Properties

Particle size (dry) : passing 200 mesh 80% (min)
Moisture content (%) : 10+ <u>2</u> %
pH : 9-11
Free swell (mls/2g.) : 18 (min)
Methylene blue : 50 ml/0.5g. (min)
Loose Bulk Density : 0.75-0.85g/cm ³
Packaging : kraft paper 50 kg. or 1 ton bag

Foundry Properties

	Moisture (%)	Compact (%)	GCS (N/cm ²)	DCS (N/cm ²)	Wet Tensile (N/cm ²)	Permeability No.	MB. (meq/100 g.)	Free Swell (ml/2 g.)
Average NC*	2.14	40.5	12	24.40	0.432	115.33	104	20
Average C*	2.43	40.5	10.47	20.40	0.320	126.33	94	8

NC = Non Calcine (Fresh Bentonite)

C = Calcine (Fired Bentonite at 600C for 1 hr.)

The foundry properties was tested with sand grain fineness no. 60-65 and 7% bentonite according to AFS standard

OSA21 Issued No.5