



Natural Sodium Bentonite for Foundry (Green Sand Casting)

Description: EMCSAFE Sodium Bentonite – Foundry Grade is a high-activity sodium montmorillonite clay designed for use as a bonding agent in foundry mold and core sands. It delivers very high green-strength in sand molds, providing excellent dimensional stability during casting and good collapsibility of the mold after pouring. Its superior thermal stability also allows the sand to retain binding capability even after high-temperature exposure.

Physical Properties

pH (25°C)	8 - 10
Color	Light Gray to Beige
Odor	Odorless
Residue on U.S. No. 200 Sieve	≤ 1.0 % wt
Montmorillonite	≥ 85%
Particle size	≥ 90% passing 200 mesh
Type	Natural sodium bentonite
Moisture	8-10 %

BONDING PROPERTIES

Green Compression Strength	145-165 kPa
Dry Compression Strength	600-750 kPa
Mold Hardness	88-95
Compactability	38-42%

RECOMMENDED USAGE

- **Typical Addition Rate:** 5 - 8% by weight of the sand system for iron castings.
- **Water Requirement:** Optimal performance at 2.5 - 3.5% total moisture.
- **Mulling:** Requires 3-5 minutes of mulling to develop bonding properties fully.

PRIMARY FUNCTIONS & BENEFITS

- **Superior Bonding:** Provides high green strength for safe mold handling and dry strength to resist metal static pressure.
- **Thermal Stability:** Maintains structural integrity at the metal-mold interface, preventing veining and penetration defects.
- **Flowability & Plasticity:** Ensures excellent moldability for sharp, precise castings.
- **Durability:** Offers good rebonding capability, allowing for efficient sand reclamation

Chemical analysis

SiO ₂	50 - 60%
Al ₂ O ₃	15 - 20%
Fe ₂ O ₃	3 - 5%
CaO	1 - 4%
LOI	7-10%
Na ₂ O	2 - 5%

The information and data made herein are believed to be accurate. However, considering that production may come from new mineral veins or different mines, if a more detailed analysis or a laboratory certificate is required, please specify it at the time of contract signing.

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