AMERICAN COLLOID COMPANY
A MINERALS TECHNOLOGIES COMPANY

EST. 1927

TECHNICAL DATA SHEET

HEVI-SAND®

HEVI-SAND® IS PRODUCED FROM HIGH-GRADE FOUNDRY CHROMITE WHICH HAS BEEN SPECIALLY TREATED FOR USE AS A MOLD AND CORE MEDIA IN THE PRODUCTION OF QUALITY CASTINGS.

Hevi-Sand® is selectively mined from the richest and purest deposits in the world. This naturally occurring chrome ore undergoes several intensive cleaning and screening processes to enhance molding and casting properties and is available in various grades in quality bags or bulk tanker.

FEATURES & BENEFITS

- **The density of Hevi-Sand®, compared to silica sand, provides the mold or core with a high rate of heat transfer giving excellent chilling characteristics and in some cases eliminating the need for metal chills.**
- **Chipping, grinding, and overall cleaning costs can be significantly reduced.**
- **Minimal binder requirements and excellent permeability can reduce the incident of gas defects.**
- **High resistance to penetration: High thermal stability and heat transfer in comparison to silica sands make it the preferred aggregate for large iron, steel, copper base, and high alloy castings.**
- **Hevi-Sand® is successful in reducing or eliminating penetration, burn-on, and veining on castings of this type.**
- **Hevi-Sand® is not easily wetted by liquid metal, giving excellent refractory properties to mold and core surfaces and improving resistance to attack from metal oxides and slag. This results in excellent peel characteristics and good surface finish.**
- **Hevi-Sand® undergoes very low volume change when subjected to thermal shock. This thermal stability helps prevent expansion defects, such as veins and scabs (rat-tails and buckles), and enhances overall dimensional accuracy.**

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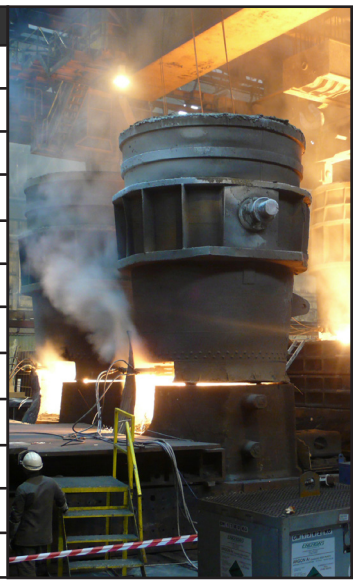
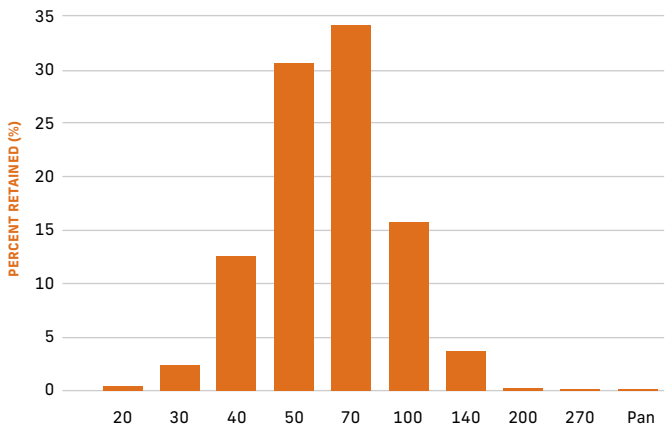
TECHNICAL SPECIFICATIONS

		CONTROL	TYPICAL VALUE
Chromium Oxide	Cr_2O_3	≥ 46%	46.6%
Silica (free)	SiO_2	≤ 1.0%	0.6%
Iron Oxide	FeO	N/A	26.3%
Aluminum Oxide	Al_2O_3	N/A	14.9%
Magnesium Oxide	MgO	N/A	9.8%
Calcium Oxide	CaO	≤ 1%	0.2%
Turbidity	NTU	≤ 400	300
Moisture		≤ 0.2%	0.06%
pH		N/A	7-9
Acid Demand	pH 3 (ml)	≤ 10	3.7
	pH 4 (ml)	≤ 8	3.1
	pH 5 (ml)	≤ 6	2.7



SIEVE DISTRIBUTION

HEVI-SAND® SIEVE DISTRIBUTION (ASTM SIEVES) TYPICAL		
ASTM SIEVE NO.	SIEVE SIZE (MICRONS)	%RETAINED
20	850	0.4%
30	600	2.4%
40	425	12.6%
50	300	30.7%
70	212	34.2%
100	150	15.8%
140	106	3.6%
200	75	0.3%
270	53	0%
Pan	0	0%
Test Qty = 100 grams AFS No = 48.9		



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