SIDERMAG

World's market leader in production probes for express analisys of molten metal

Coated sand

SIDERMIX
Sand resin mixtures

Will arrange free trials at any convinient time for you
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Coated sand

Purpose:

Sand-resin mixtures are used for production shell moulds and shell cores for high precision casting.

Description:

Under the conditions of mass and large-scale production of high-precision castings, hardened in contact with hot fitting-outs cores are used. The usage of this technology, in comparison with dry-sand molding, makes it possible to increase labor productivity, reduce mixture consumption, and improve the surface finish of castings (Ra = 1.6-42.5 microns).
Binders in sand-resin mixtures are synthetic resins.
Sand-resin mixtures have a number of advantages over sand-liquid glass mixtures:
– easy removal of cores (they spill out when knocking out castings from the mold);
– high productivity of the process with a contact time with hot tooling from 15 to 60 s;
– the possibility of regeneration of waste mixtures.
The coating of the sand-resin mixture is made by a hot process. In the hot coating process, the resin is liquefied in the mixer by the hot sand. With vigorous stirring, the resin covers the grains of the sand and, upon subsequent cooling and stirring, solidifies on the grains in the form of a thin cover-up. Coating makes it possible to produce mixtures with high physical and mechanical (by 25–30%) and technological properties. For the production of sand-resin mixtures, enriched quartz sands with a clay content of no more than 0.5% are used.

For steel casting:

Low content of nitrogen, high resistance to thermal shocks, malleable, high sintering point, high quality of castings surface:

Grindability, %	0,2
Hot tension strength (N/cm2)	160-215
Cold transverse strength (N/cm2)	700-950
Temperature of resin reaction (ºC)	85-90
Quartz fieldspathic sand as base, SiO2	90,5
Low fenol resin (3-6%)	6
Material's moisture, %	0,02

For grey iron and nodular cast iron:

Grindability, %	0,2
Hot tension strength (N/cm2)	180-250
Cold transverse strength (N/cm2)	600-800
Temperature of resin reaction (ºC)	85-90
Quartz fieldspathic sand as base, SiO2	90,5
Low fenol resin (3-6%)	6
Material's moisture, %	0,02

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