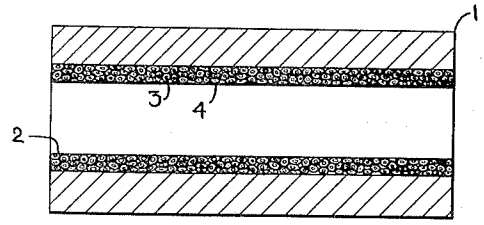
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LINING FOR CENTRIFUGAL IRON CASTING MOLDS

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LINING FOR CENTRIFUGAL IRON CASTING MOLDS

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The invention relates to a lining for centrifugal casting molds and to a method for its application.

The reasons for the application of linings to centrifugal casting molds and particularly steel molds are manifold and of various types.

In most cases they are governed by the desire to protect the inner face of the molds. The lining is also intended to control the transmission of heat from the molten metal to the mold wall and particularly to retard the same. Moreover, the mold linings are intended to control the shrinkage of the metal during its solidification.

In order to comply with these diversified requirements the linings for the centrifugal casting molds have been made from solid refractory materials, loose sand and loose iron chips.

Experience has proven that these mold linings have a damaging influence on the casting method and the castings. The solid linings lead to surface fractures due to shrinkage. Loose sand linings produce a rough surface on the castings; parts of the loose linings enter into the molten metal and greatly aggravate the surface treatment of the castings.

Mold linings solely consisting of loose cast iron chips cause a quick passage of the heat from the charged metal to the mold wall. A portion of the chips is accordingly welded to the outer face of the castings, another portion bakes or frits together which exerts a damaging influence on the shrinkage of the metal and on the further treatment of the castings. At those spots where the chips solidly adhere to the molds due to centrifugal action the transmission of the heat from the molten metal to the mold wall is greatly accelerated which results in a damaging action on the castings as well as the mold.

It is the object of the invention to eliminate the above recited disadvantages of the hitherto customary mold linings and particularly centrifugal mold linings.

It is another object of the invention to prevent the fritting together and welding of the iron particles to the mold linings and to eliminate its damaging influence on the shrinkage of the castings.

In compliance with these objects a mold lining is used in conformity with the invention which consists of iron particles such as iron chips coated

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with a poor heat conductor; for this purpose cast iron particles or chips are coated with a refractory material, such as fire-clay, graphite, asbestos and the like. The refractory may be applied to the cast iron grains as a dry powder or as a mud. The coated particles are heated prior to their application to the mold until the moisture or gas producing substances are removed. The thus treated cast iron particles are applied to and distributed on the inner mold wall as a uniform layer and firmly held on the same by centrifugal action. The heat transmission to the mold may be controlled by a variation of the thickness of the coating layer.

The thus produced lining may be used for repeated casting steps; it can easily be renewed, if necessary.

The application of my novel lining to a centrifugal casting mold is schematically illustrated in the attached drawing, numeral 1 denoting the mold and numeral 2 the lining.

The lining consists of cast iron chips 3 individually covered or coated with a refractory 4 in the form of a dry powder or a solution and suspension thereof in water or in a liquid adhesive. The lining forming material is uniformly distributed onto the mold wall and adheres thereto by centrifugal action.

The invention has been described with reference to a preferred embodiment and it will be understood that many variations and modifications thereof may be resorted to without departure from the scope of the invention as defined in the following claims.

I claim:

1. A method of protecting the inner face of centrifugal casting molds comprising covering individual iron chips with the suspension of a pulverulent inorganic refractory in a liquid carrier, drying the chips to form a coating thereon, applying the coated chips to the inner mold wall and holding the same in position at said wall by the centrifugal rotation of the mold.

2. A method of lining the inner face of a centrifugal casting mold according to claim 1 comprising applying to the inner face a uniformly distributed layer of iron chips individually covered with the suspension of powdered fire clay in an adhesive liquid.

3. A method of lining the inner face of a cen-

trifugal casting mold according to claim 1 comprising applying to the inner mold face a uniformly distributed layer of iron chips individually covered with the suspension of a powdered graphite powder in an adhesive liquid.

4. A method of lining the inner face of a centrifugal casting mold according to claim 1 comprising uniformly applying to the inner mold face a layer of iron chips individually covered with the suspension of asbestos powder in an adhesive liquid.

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