Press release

RAMPF receives patent for face casting system and manufacturing process

RAKU-TOOL® PC-3458 / PC-3459 / PH-3958 casting resin raises the bar / Over 200,000 parts produced

Grafenberg, January 25, 2016. RAMPF Tooling Solutions, a leading developer and producer of board and liquid materials and semi-finished products for modeling and mold engineering, has received patent no. 10 2012 102 852 for its RAKU-TOOL® PC-3458 / PC-3459 / PH-3958 face casting system from the German Patent and Trademark Office in Munich. The patent relates to the casting resin and the manufacturing process using face casting.

When it comes to liquid products for the foundry industry, the **RAKU-TOOL® PC-3458 / PH-3958** face casting system from RAMPF Tooling Solutions raises the bar. The highly abrasion-resistant material has already been used to produce over 200,000 parts. RAKU-TOOL® PC-3458 / PH-3958, which is ready for use the very next day and can be poured manually in quantities of up to 25 kilograms, is the only system on the market with a heat deflection temperature (HDT-B) of 95°C. This enables higher process temperatures, thus increasing production capacity over the long term.

Thanks to the high number of parts supported, the face casting system is particularly well suited to the large-scale series production of core boxes and pattern plates. Advantages of the material include:

- exceptional dimensional stability
- dimensional accuracy of the foundry equipment (metal backing)
- excellent chemical resistance
- prevention of swelling
- minimal (or no) sand adhesion
- reduced maintenance costs, as only the face casting layer needs to be renewed when the wear limit is reached

Over 80,000 parts have been produced using the RAKU-TOOL® PC-3459 / PH-3958 face casting system. The beige-colored system is ready for use after curing at room temperature for five to seven days. RAKU-TOOL® PC-3459 / PH-3958 has an HDT-B of 65°C and can be poured manually in quantities of up to approximately 110 kilograms.

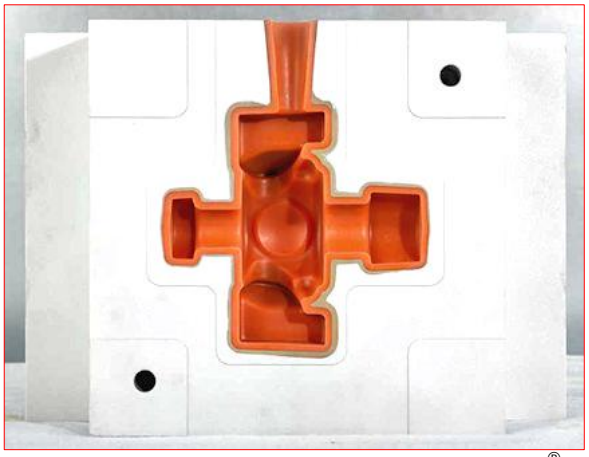
Face casting process – high number of parts, minimal cost

The main advantage of this patented method – which has been specially designed for RAKU-TOOL® PC-3458 / PC-3459 / PH-3958 – is that, once the surfaces become worn, the undersized base bodies can be recoated at little cost. The following methods are available to manufacture pattern plates and core boxes using the face casting process:

1. In the manufacture of pattern plates, the first step is to make an original model or prototype pattern plate. This is then used to create a negative. After that, an undersized backing is produced for face casting. This backing may be made of a wide range of materials such as wood, plastic or metal. “The key criterion used to select the material for the backing is the quality that needs to be achieved in terms of stability and dimensional stability,” says Marcus Vohrer, Head of Application Engineering at RAMPF Tooling Solutions. The finished backing and the negative are assembled in the correct dimensions.

Pattern plates, produced with RAKU-TOOL® PC-3458 / PH-3958 (left) and RAKU-TOOL® PC-3459 / PH-3958 (right)

2. To manufacture a core box using face casting, an initial core must first be developed to serve as a model for the actual sand core. The backing of the core box is made of wood, plastic or metal, depending on the quality requirements, with allowance for the core. The core is then mounted with the backing using a mold parting line (core support). The face casting layer is cast via the sprue point, which should be sited at the deepest part of the cavity. The face casting layer acts as the effective surface and is thus the area that is put under the most stress. Face casting can be carried out by hand or using mixing and dispensing systems.



Core box half, produced with the RAKU-TOOL® PC-3458 / PH-3958 face casting system

“Our patented face casting system and the associated manufacturing process give our customers in the foundry industry that vital competitive edge,” says Jochen Reiff, Sales & Marketing Director at RAMPF Tooling Solutions. “The system offers unrivaled performance and quality thanks to the exceptional abrasion resistance and dimensional stability and ultimately saves our customers both time and money.”

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RAMPF Tooling Solutions GmbH & Co. KG develops and produces board and liquid materials and semi-finished goods for cutting-edge modeling and mold engineering. The range of skills includes made-to-measure services and products such as pastes, large-volume and full-size castings for Close Contour models, and prototyping systems.

Based in Grafenberg (near Stuttgart), Germany, RAMPF Tooling Solutions is the world’s largest producer of styling, modeling, and working board materials, which demonstrate excellent quality and the best mechanical properties.

High-quality Close Contour Pastes, Close Contour Blocks, and Close Contour Castings guarantee excellent and cost-effective solutions for modeling and mold engineering.

The company produces and develops pioneering systems for the composites industry that cover a wide variety of production procedures and a broad range of temperatures.

It goes without saying that RAMPF Tooling Solutions also provides expert advice, customer-specific service, and prompt technical support.

RAMPF Tooling Solutions is a company of the international **RAMPF Group** based in Grafenberg, Germany.

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