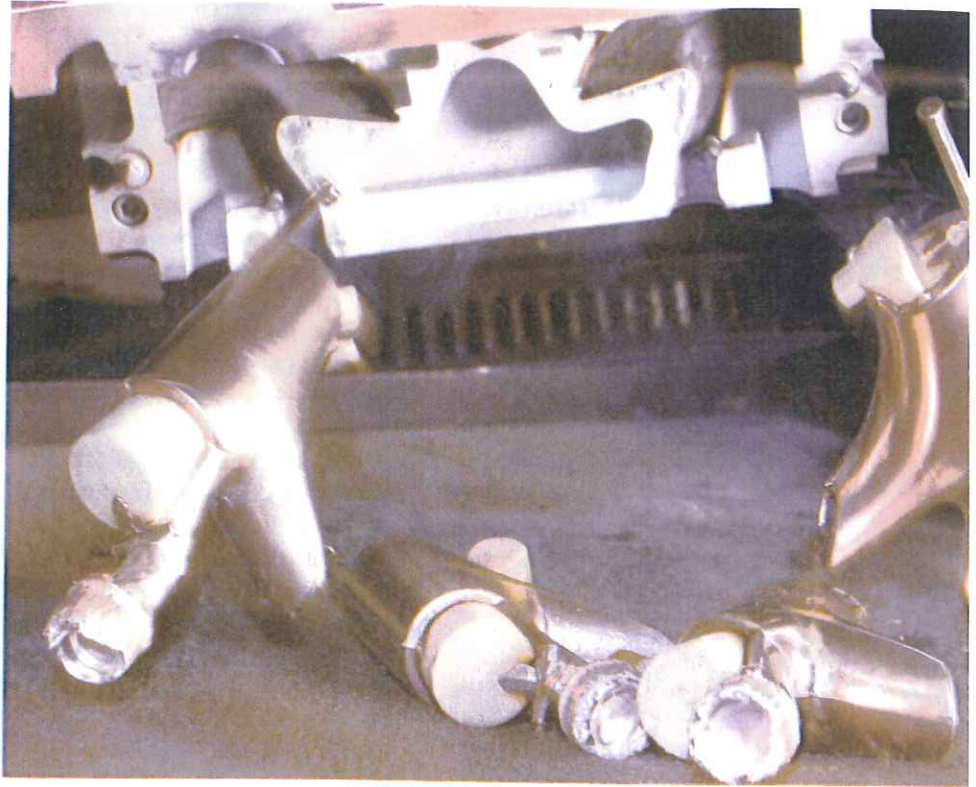


Casting without graphite

Since December 1, 2008, the foundry of a sanitary fittings and faucetry manufacturer in England has been producing castings without graphite. It uses the semi-permanent release agent Nanocomp MetCast BC as release agent. The reason for changing to this ceramic coating material from Saarbrücken (Germany) based ITN Nanovation was mainly the possibility of controlling the solidification process in the die. The selection of the coating material or the blending of the material determines whether the heat transfer at the die interface is heat-conducting or insulating. The coating is stable to temperatures far above 1,000 °C and insensitive to the sudden temperature shocks occurring when the die is submerged into the water bath. Build-up of zinc and zinc oxides can be avoided by suitably setting the coating and casting parameters.

The ceramic coating helps to reduce the production of scrap. For example, the occurrence of cracks in brass die castings can be avoided by setting (punctual) insulating conditions. A somewhat rough surface structure improves the flow behaviour of the metal and avoids surface defects.

After a phase of intensive testing, the above mentioned foundry decided to use the ceramic coating for its complete production – a determined step



These sanitary fittings were not cast with graphite but with the ceramic coating Nanocomp MetCast BC.

towards clean, dust-free and environmentally friendly manufacturing. The proportional relationship is highly impressive: just a few kilograms of nanoceramic coating material substitutes several tonnes of graphite, which no longer have to be purchased and disposed of. In addition to savings due to

smaller scrap rates and improved eco-friendliness, the cleaner working environment makes the work safer for the operators and protects the equipment.

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