

Technical Report PolymerMetal®

TEC-# 030

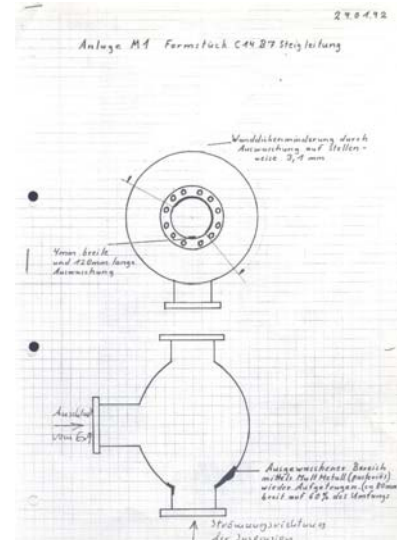
High stress due to temperature, chemicals (aggressive lye) and erosion affecting at the same time

Used products

Ceramium®

Experience report of a producer of aluminium oxide

The favourable properties of the producer of the material Ceramium® prompted us to check if the technical data are valid also for the present operating conditions. For a realistic evaluation it is important to record the operating times.



Subject: examination concerning the removal of erosion damages with Ceramium®

Objekt/work piece: structural part of steel casting Brinell hardness 300

Medium: suspension consisting of
 - sodium aluminate lye Na₂O 200 g/l
 - aluminium oxide Al₂O₃ 240 g/l
 - ore remains
 (The aggressiveness of the Natrium aluminate lye more or less corresponds to sodium hydroxide NaOH of a concentration of 15%)

volume flow ~ 150 m³/h
 velocity 10 m/s

Operating temp.: 135 °C

Operating pressure: ~ 2 bar

Description:

The standpipe to the C14B07 has a structural part made of steel casting of Brinell hardness 300. Damages were caused by erosion due to burbling and formation of whirls. According to the drawing on the right side the eroded areas were refilled with Ceramium® pasty. Therefore the original wall thickness was restored. The surfaces were sand blasted, made dust free and degreased before.

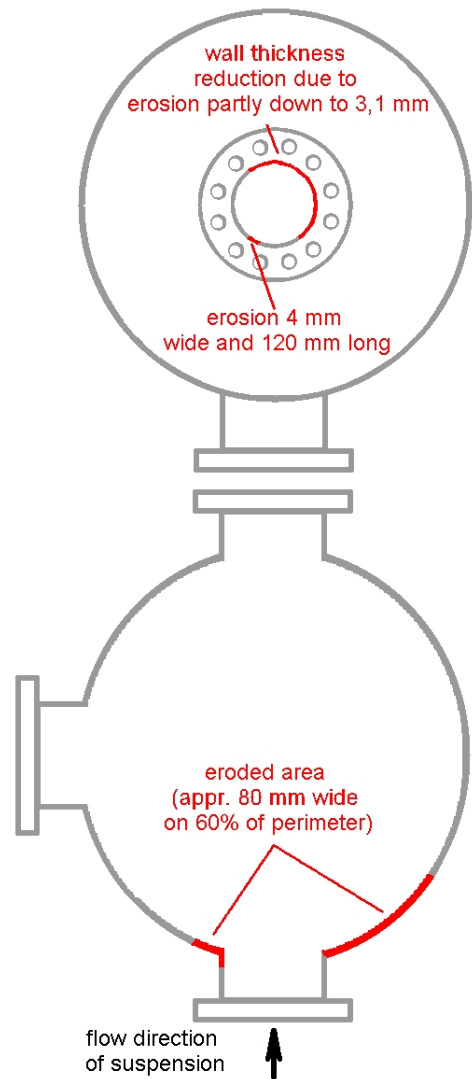
After appr. 4 months a revision was carried out. No visible erosion damages at the surfaces coated with Ceramium® were found. The areas of the steel casting which were not coated with Ceramium showed very severe erosion damages.

Result:

The test showed that Ceramium® fulfils the conditions for the repair of damaged metal surfaces. At the same time the wear resistance will be improved.

Note:

The original text of the customer was summarised.



MultiMetall
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