

BELZONA COLD BONDING REPAIRS AN EXHAUST FLUE

ID: 7690

Industry: Steel & Metal Processing

Customer Location: Zinc and Lead Smelting Complex, BC, Canada

Application: VPF-Valves, Pipes and Fittings

Application Date: June 2017

Substrate: Stainless-steel

Products: Belzona 1121 (Super XL-Metal),
Belzona 5841,

Problem

A hole was created in the wall of the flue at an elbow; due to the location of the hole, it was not noticed until it was nearly one foot across. Upon closer inspection, it was found that a large section of the flue wall in this area was pitted and weakened, with many small holes developing.



View of small holes indicating extensive pitting of the interior surface



Initial surface preparation using a wire brush



Prepared area coated with Belzona 5841



All 5 plates bonded in place; application is completed

Application Situation

Hot exhaust gas flue.

Application Method

Patch plates were pre-designed to fit the flue elbow, and blasted prior to the application. The application was performed from scaffolding with flue in operation. Surface preparation was limited due to the necessity of avoiding any sparks which could be drawn into the hole; the use of a hand-held random orbit sander equipped with 40-grit paper was approved, and this was used along with handheld wire brush for prep on the exterior surface of the flue. After prep, the flue exterior surface was coated by brush with Belzona 5841, which is tolerant of both minimal surface prep and the temperatures at which this flue operates, with the aim of improving adhesion of Belzona 1121 to this surface. Belzona 1121 was mixed and applied to the back of the first patch plate to a thickness of approximately 3/4", and this plate was then lifted by two people (using handles welded to the plates for this purpose) and positioned while a third person installed and tightened band clamps to hold the plate in place during cure. Five separate patch plates were installed in sequence, including a strip covering the joint between two adjacent plates.

Belzona Facts

The repair was inspected several times since application in June 2017 and was performing perfectly at the time of inspection.

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ISO 9001:2015
FS 695214
ISO 14001:2015
EMS 695213

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