

BELZONA COLD BONDING REPAIRS AN EXHAUST FLUE

ID: 7690



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.

APPLICATION SITUATION

Hot exhaust gas flue with through wall defects. These defect needed addressing.

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.

INDUSTRY

Steel & Metal Processing

LOCATION

Zinc and Lead Smelting Complex, BC, Canada

APPLICATION DATE

June 2017

PRODUCTS

Belzona 1121 (Super XL-Metal)

Belzona 5841

SUBSTRATE

Stainless-steel

PHOTOS

1. View of small holes indicating extensive pitting of the interior surface
2. Initial surface preparation using a wire brush
3. Prepared area coated with Belzona 5841
4. All 5 plates bonded in place; application is completed

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