

Belzona Know-How

FOR APPLYING EROSION / CORROSION RESISTANT COATINGS

HEX-3

Common Problems

- Accelerated deterioration of surfaces due to the effects of erosion/corrosion

Set-up

All work should be carried out in strict accordance with the relevant Belzona® Instructions For Use.

Product selection should be made on the basis of the predominant problem, the nature of the system fluid and extent of the damage.

Preparation

Machine or grind rebate grooves at all points where the coating is to be finished (figs. 1 & 2). Grooves should be approximately 1/8 in. (3 mm) wide and deep enough to accommodate the final specified coating thickness.

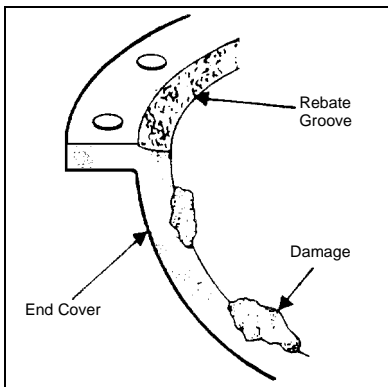


Fig. 1

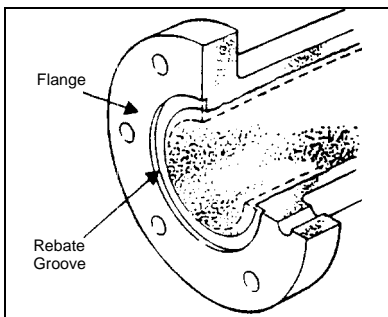


Fig. 2

Grind all sharp edges to give a radius of not less than 1/8 in. (3 mm).

Grit blast the entire surface to be coated, using an angular abrasive to give Swedish Standard Sa2½ near white metal finish) ensuring a minimum 3 mil (75 micron) profile. On completion of the blasting procedure, wash all surfaces with **Belzona® 9111** in order to remove residual blasting debris.

Where equipment is operating in aggressive corrosive solution, e.g. salt water, please refer to Section 1 of the Belzona® Instructions For Use.

Conditioning

Where a **Belzona® 2000 Series** product is being utilized, apply **Belzona® 2911** or **Belzona® 2921** in a thin film, using a stiff bristled brush, to the entire prepared area. All surfaces to which the **Belzona® 2000 Series** product is to bond should be treated.

Application

a) Rebuilding Internal Profiles

All damaged and uneven surfaces should be rebuilt using an appropriate Belzona® product in order to restore the original internal contours of the equipment (refer to Belzona® Know-How Systems leaflet HEX-2 "Rebuilding damaged water boxes, end covers and channels").

b) Coating

Place masking tape at the outer edge of the rebate grooves in order to highlight the area to be coated and to give a neat and clean finish. Mix the selected Belzona® product and apply an even coat at the specified thickness, using stiff short bristled brushes. Make sure the coating is finished into the rebate grooves. Use wet film thickness gauges to ensure the recommended film thickness is achieved. Immediately remove the masking tape.

Allow to cure before applying a second coat, where specified, of the selected Belzona® product, again ensuring that it is correctly finished within the rebate grooves.

When cured, inspect the coating either visually or with suitable holiday detection equipment for continuity.

Where pinholes or holidays are detected, the surrounding area must be roughened using coarse emery cloth, washed with **Belzona® 9111** and a further coat of Belzona® applied within the prepared area.

Belzona® Technical Comparison:

Product	Consistency	Erosion Resistance	Working Life at 60°F (15°C)	Full Chemical Cure at 60°F (15°C)
Belzona® 1321	Fluid	Very Good	60 minutes	3 days
Belzona® 1331	Fluid	Very Good	60 minutes	7 days
Belzona® 1381	Fluid	Very Good	55 minutes	72 hours
Belzona® 1341	Fluid	Good	60 minutes	10 days
Belzona® 1391	Fluid	Very Good	60 minutes	Cure in service
Belzona® 1593	Fluid	Very Good	60 minutes	Cure in service
Belzona® 2121	Fluid	Excellent	20 minutes	3 days
Belzona® 4311	Fluid	Very Good	45 minutes	14 days
Belzona® 5811	Fluid	Fair	75 minutes	14 days
Belzona® 5892	Fluid	Fair	55 minutes	Cure in service

Belzona® System Selector:

Main System Requirement	Belzona® 1321	Belzona® 1331	Belzona® 1381	Belzona® 1341	Belzona® 1391	Belzona® 1593	Belzona® 2121	Belzona® 4311	Belzona® 5811	Belzona® 5892
High erosion resistance, medium solids entrainment				
High erosion resistance, high solids entrainment							.			
Non-stick coatings, low solids entrainment				.						
High chemical resistance, low solids entrainment								.		
High corrosion resistance, low solids entrainment									.	.
High temperature resistance			.		.					.
Ultra-high temperature resistance						.				
Spray application		.	.							

Recommended Equipment:

<p>Mixing and application tools are included in each pack of Belzona®. Prior to carrying out the repair, however, it is important that all other necessary tools and equipment are available on site. Every situation will be somewhat different, but the basic requirements could include those shown to the right.</p>	<ul style="list-style-type: none"> • Grit Blasting Equipment • Machining/Grinding Equipment • Needle Gun • Surface Profile Gauge • Short Bristled Brushes • Belzona® 9111 • Masking Tape • Vacuum Equipment • Compressed Air 	<ul style="list-style-type: none"> • Suitable Protective Clothing/ Equipment • Stiff Bristled Brushes • Wet Film Thickness Gauges • Holiday Detection Equipment • Space Heating Equipment for Cold Weather / Force Cure Applications
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For more complete technical information, please refer to the appropriate Belzona Product Specification Sheet.
 For detailed instructions on surface preparation, mixing and curing, please refer to the appropriate Belzona Instructions For Use.
 Comprehensive Health and Safety information is provided with the product. For more information, please contact your local Belzona representative.

The technical data contained herein is based on the results of long term tests carried out in our laboratories and to the best of our knowledge is true and accurate on the date of publication. It is however subject to change without prior notice and the user should contact Belzona to verify the technical data is correct before specifying or ordering. No guarantee of accuracy is given or implied. We assume no responsibility for rates of coverage, performance or injury resulting from use. Liability, if any, is limited to the replacement of products. No other warranty or guarantee of any kind is made by Belzona, express or implied, whether statutory, by operation of law or otherwise, including merchantability or fitness for a particular purpose.

*Belzona products are
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ISO 9001 Registered
Quality Management System*

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Publication No. 75-11-15

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