

Common Problems

Fluid leakage caused by:-

- Mechanical damage.
- Wear due to fretting.
- Erosion-corrosion.
- Frost damage.

Set-up

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

Belzona® product selection and application technique should be made based upon the time available for the work to be carried out, the system pressure, temperature and consideration of any chemicals present.

a) Low pressure pipe repairs (below 100 psi)

In this case, repairs are possible using a combination of a selected Belzona® material and **Belzona® 9341**.

b) High pressure pipe repairs (above 100 psi)

In this case, a Belzona® material is used in conjunction with a suitable reinforcement patch, which should be fabricated from similar material to the damaged substrate.

Isolate and drain the damaged pipe. Where complete drainage is not possible and liquids are flowing from the damaged areas, stem the flow by caulking or peening. Where there is a definite hole, then wooden or metallic bungs should be used.

Alternatively, stem the flow by mixing a fast curing grade of Belzona® and, when semi-cured, force it into the damaged area and hold until the product becomes dimensionally stable.

Having stopped the flow, prepare the substrate surrounding the damage.

Preparation

All Substrates

Wash down the area to be repaired with **Belzona® 9111** in order to remove all dirt, grease and surface contaminants.

Roughen the area in the best manner possible, bearing in mind the pipe contents and any restrictions with regard to the use of mechanical tools. As a general rule, the less effective the preparation, the larger the prepared area should be, thus increasing the bond area in order to compensate for lack of prepared surface profile. Following all mechanical preparation, rewash the substrate with **Belzona® 9111**.

Application

Mix the selected Belzona® material in accordance with the Belzona® Instructions For Use.

a) Belzona® Reinforced Repair

Apply a thin layer of Belzona® material to all prepared areas pushing it well into the prepared profile. Wet out a length of **Belzona® 9341** with Belzona® material. The length of the **Belzona® 9341** must be at least twice the pipe circumference. Apply the tape, coated side down, to the repair and wrap firmly around the pipe until the Belzona® product is forced through to the outer surface (fig.1). Apply a further layer of Belzona® product to completely seal the surface.

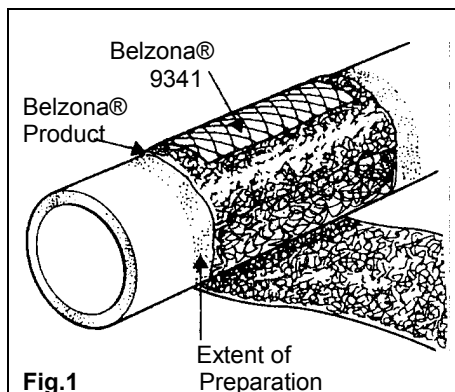


Fig.1

b) Preformed Patch Repair

Apply a thin layer of Belzona® material to all prepared areas including the preformed patch, forming a peak towards the center.

Push the patch into position ensuring minimal air entrapment. Remove excess material immediately (fig. 2).

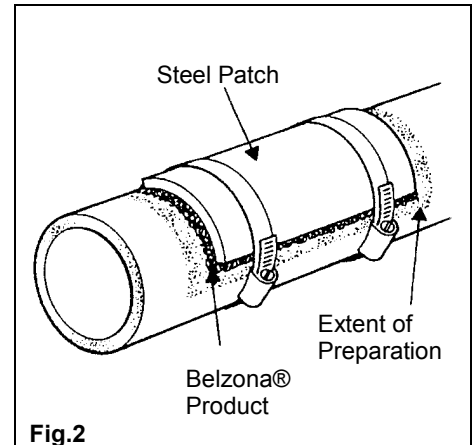


Fig.2

Belzona® Technical Comparison:

Product	Consistency	Heat Resistance	Chemical Resistance	Working Life at 60°F (15°C)	Full Chemical Cure at 60°F (15°C)
Belzona® 1111	Paste	High	V.Good	25 minutes	30 hours
Belzona® 1221	Paste	Medium	Good	4 minutes	30 hours
Belzona® 1831	Paste	Medium	Good	25 minutes	36 hours
Belzona® 4301	Paste	High	Excellent	35 minutes	14 days

Belzona® System Selector:

Main System Requirement	Belzona® 1111	Belzona® 1221	Belzona® 1831	Belzona® 4301
General pipe repairs	•			
Emergency pipe repairs		•		
Repairs requiring maximum chemical resistance				•
Surface tolerant repairs			•	

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"> • Bungs/Plugs • Caulking Materials • Peening Tools • Hammers • Emery Paper • Heat Source • Rigid Patches 	<ul style="list-style-type: none"> • Belzona® 9111 • Suitable Protective Clothing/ Equipment • Belzona® 9341 • Files • Grinding Equipment
--	--	--

For more complete technical information, please refer to the appropriate Belzona® Product Specification Sheet.
 For detailed instructions on surface preparation, mixing and cure, please refer to the appropriate Belzona® Instructions For Use.
 Comprehensive Health and Safety information is provided with the product.
 All of these are available through your local Belzona® Engineer

Copyright © 2009 by Belzona International Limited. All rights reserved. Certain portions of this work copyright © 1980-2008 by Belzona International Limited. No part of this work covered by the copyrights hereon may be reproduced or used in any form or by any means - graphic, electronic or mechanical including photocopying, recording, taping or information storage and retrieval systems - without written permission of the publisher.
 Belzona® is a registered trademark



ISO 9001:2000
 Q 09335
 ISO 14001:2004
 EMS 509612

Belzona Polymerics Ltd.,
 Claro Road, Harrogate,
 HG1 4DS, England.
 Tel: +44 (0) 1423 567641
 Fax: +44 (0) 1423 505967
 E-mail: belzona@belzona.co.uk

Belzona Inc.,
 2000 N.W. 88 Court, Miami,
 Florida 33172, U.S.A.
 Tel: +1 (305) 594 4994
 Fax: +1 (305) 599 1140
 E-mail: belzona@belzona.com

Belzona Asia Pacific
 Rattakit Building, 29/13 Moo 9,
 Sukhumvit Road, Banglamung
 Chonburi 20150, Thailand
 Tel: +66 38 378099
 Fax: +66 38 378098
 E-mail: belzona@belzona.cn

