Belzona 7111

FN10171

INSTRUCTIONS FOR USE

1. TO ENSURE AN EFFECTIVE MOLECULAR WELD

Any surface to which **Belzona 7111** is to be applied must be clean, firm and dry.

i) Metallic surfaces
Brush away any loose rust and flaking paint or other surface contaminants. Remove dirt, oil or grease with **Belzona 9111** (Cleaner/Degreaser) or any other effective cleaner which does not leave a residue e.g. methyl ethyl ketone (MEK).

ii) Concrete surfaces
Remove any flaking paint, tar and other coatings, as well as any loose surface material.
Allow new concrete to cure for a minimum of 28 days or until the moisture content is below 6% using a Protimeter.

2. COMBINING THE REACTIVE COMPONENTS

Before mixing the base and solidifier together, the amount of solidifier should be determined based on the substrate temperature, chock thickness and substrate of the foundation. A relatively high exothermic heat within **Belzona 7111** must be achieved to reach its superior strength properties. Refer to ***Section 5 Solidifier Ratio Guide*** to determine the proper amount of solidifier, which can be obtained by utilizing one of the graphs in this guide, depending on whether the foundation is steel or concrete.

Use the solidifier reduction cup to measure the amount of the solidifier to reduce. Once the solidifier has been reduced, pour contents of the solidifier container into the base container. Mix together thoroughly to achieve a uniform material free of any streakiness. A drill mixer with low RPM may be used to minimize air entrapment and the mixing time should be 2 to 3 minutes.

Dispose of excess solidifier according to safety regulations. Please refer to **Belzona 7111 SDS** for more information.

NOTES:
1. MIXING TEMPERATURES
Belzona 7111 should be mixed in a shaded or air-conditioned area with the temperature between 55-95°F (13-35°C).

2. WORKING LIFE
From the commencement of mixing, **Belzona 7111** must be used within the times shown below.

Temperature	60°F (15°C)	77°F (25°C)	86°F (30°C)
Use all material within	45 minutes	30 minutes	15 minutes

3. APPLYING BELZONA 7111

FOR BEST RESULTS
Do not apply when:
(i) The temperature is below 55°F (13°C) or the relative humidity is above 90%.
(ii) Rain, snow, fog or mist is present.
(iii) There is moisture on the metal and concrete surface or is likely to be deposited by subsequent condensation.
(iv) The working environment is likely to be contaminated by oil/grease from adjacent equipment or smoke from kerosene heaters or tobacco smoking.

a) Align machinery using jacking screws or other alignment mechanism. Typical pour thickness range recommended for **Belzona 7111** is ½ to 4 in (12 to 100 mm).
b) Build a dam between the bedplate/baseplate and foundation and around three sides of the area to be chocked using open-cell foam material. Foam must fit properly to provide optimum seal.
c) Wrap anchor bolts with duct tape or apply non-melt grease to isolate from **Belzona 7111.**
d) Apply a thin coat of **Belzona 9411/8411** (Release Agent) to the surfaces which will be in contact with **Belzona 7111** to allow future removal of the equipment. Allow to dry according to the respective Instructions for Use. If adhesion is desired, this step can be skipped.
e) Install a dam approximately ½ to ¾ in (12 mm to 18 mm) out from the bedplate/baseplate and along the front. Its height should be ½ in (12 mm) higher than the bottom edge of the bedplate/baseplate to allow for a small overpour volume.
f) Seal the dam with caulk/mastic or silicone to prevent leaks.
g) Apply **Belzona 9411/8411** (Release Agent) to the inside of the front dam that temporarily holds the product during pour and cure process.
h) Install small pieces of foam or caulk/mastic in the overpour area (front corners) to prevent **Belzona 7111** from overflowing on the sides of the dam.
i) Inspect all dams to ensure they are sealed properly to prevent any leaks.

j) Slowly pour the mixed **Belzona 7111** into one end of the overpour area and allow it to flow across and under the bedplate/baseplate.
k) Refer to graphs under ***Section 5 Solidifier Ratio Guide*** for maximum single pour thickness according to the temperature and mixing ratio.
l) For application details please refer to Belzona System Leaflets GSS-12

VOLUME CAPACITY OF MIXED BELZONA 7111
266 in³ (4360 cm³) per 6.95 kg unit

NOTES:
1. CLEANING
Mixing and application tools should be cleaned immediately after use with **Belzona 9111, Belzona 9121** or any other effective solvent e.g. methyl ethyl ketone (MEK), acetone or cellulose thinners.

2. COLORS
Belzona 7111 is available in orange (Marine Grade) and gray (Industrial Grade).

3. OVERCOAT TIMES
Belzona 7111 can be overcoated with solvent free epoxy based coatings, such as **Belzona 5811**, for a better chemical resistance. A cure time of at least 5 hours is required before overcoating at any temperature. The maximum overcoat time is dependent on both temperature and humidity as shown below. If these times are exceeded, the surface must be manually sanded/abraded (60 Grit Sandpaper) to achieve a frosted appearance free of gloss.

Temperature	<50% Relative Humidity	>50% Relative Humidity
Up to 68°F(20 °C)	24 hours	24 hours
Up to 86°F(30 °C)	24 hours	18 hours
Up to 104°F(40°C)	18 hours	8 hours

4. COMPLETION OF THE MOLECULAR REACTION

Cure time is dependent on ambient temperature; the lower the temperature the longer the cure time.

Allow **Belzona 7111** to cure as shown below before torquing the bolts and executing the final alignment check:

Temperature	Cure Times
60°F/15°C	48 hours
68°F/20°C	24 hours
86°F/30°C	12 hours

When curing is complete, remove the front dams and grind off the sharp edges of the overpour.
A minimum Barcol reading of 40 indicates that a sufficient cure has been achieved. A hardness test must be carried out before the release of jacking screws and torquing of hold down bolts.

5. SOLIDIFIER RATIO GUIDE

By varying the amount of solidifier, the reaction that takes place between the base and the solidifier can be managed.

The following graphs of **'Thickness versus Temperature'** will inform whether the solidifier is to be reduced and whether the mixed **Belzona 7111** should be poured in layers.

Graph 1 – **Belzona 7111** between steel plate and steel foundation

Graph 2 – **Belzona 7111** between steel plate and concrete foundation

The following information is required:

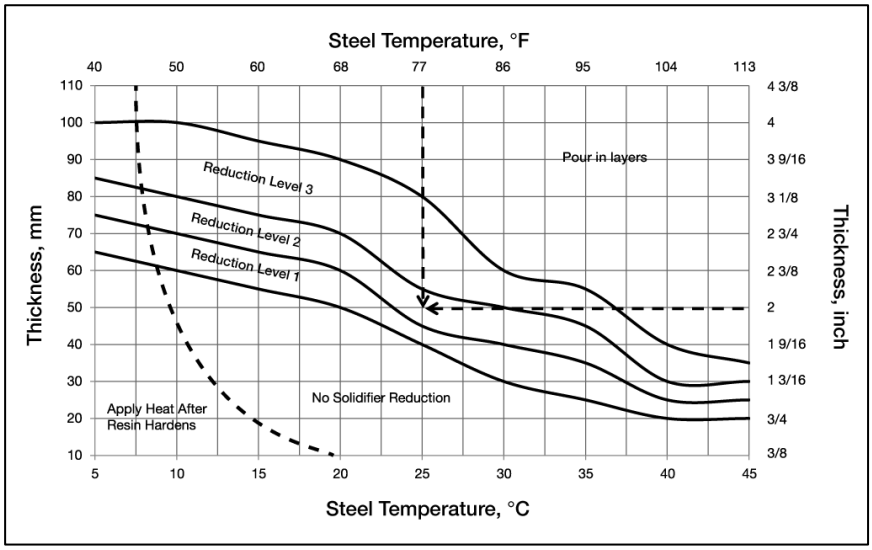
- **Substrate temperature**

  Graph 1:
  If the plate and foundation materials are the same, i.e. steel and steel but at different temperatures, take the highest value.

  Graph 2:
  If the plate and foundation materials are different, i.e. steel and concrete, always measure the steel substrate because it has higher thermal conductivity and heat capacity.

- **Chock thickness**
  The typical chock thickness range recommended for **Belzona 7111** is ½ to 4 in (12 to 100 mm). This is defined when aligning the machinery.

GRAPH 1 - BELZONA 7111 BETWEEN STEEL AND STEEL

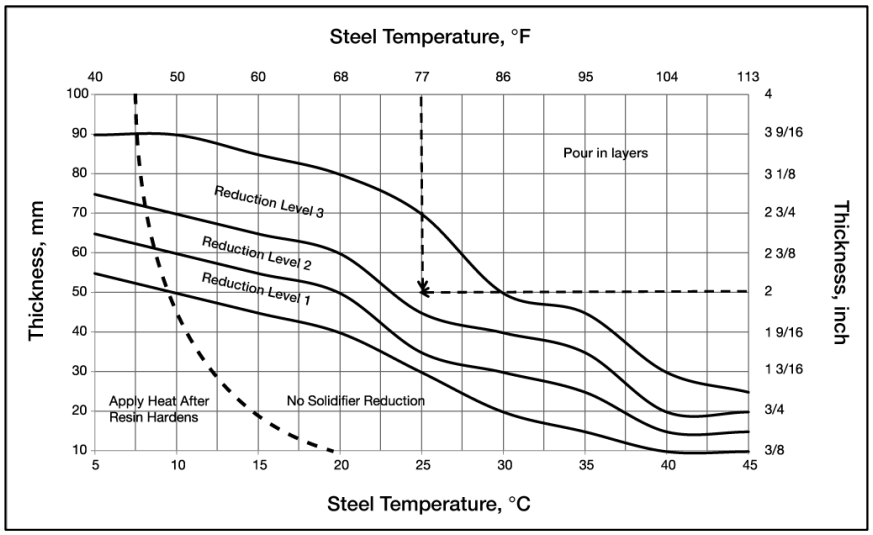


Example: Steel plate and steel foundation

Chock thickness: 2” (50 mm)
Steel temperature: 77°F (25°C)

Solidifier reduction: 2

GRAPH 2 - BELZONA 7111 BETWEEN STEEL AND CONCRETE



Example: Steel plate and concrete foundation

Chock thickness: 2” (50 mm)
Steel temperature: 77°F (25°C)

Solidifier reduction: 3

HEALTH & SAFETY INFORMATION

Please read and make sure you understand the relevant Material Safety Data Sheets.

ISO 9001:2008
US3429

Manufactured under an ISO 9000 Registered Quality Management System

BELZONA®
Repair • Protect • Improve