1. **TO ENSURE AN EFFECTIVE MOLECULAR WELD**

   **APPLY ONLY TO CLEAN, FIRM, DRY AND WELL ROUGHENED SURFACES**

   a) Brush away loose contamination and degrease with a rag soaked in Belzona® 9111 (Cleaner/degreaser) or any other effective cleaner which does not leave a residue e.g. methyl ethyl ketone (MEK). Use a flame to sweat out oil from deeply impregnated surfaces.

   b) Roughen surfaces by blast cleaning, deeply scoring or grinding.

   c) Stabilize cracks by drilling the extremities. Long cracks should be drilled, tapped and bolted every 3-4 inches (77-103 mm).

   d) Vee-out all cracks using a rotary file.

   e) Finally degrease again. Use clean rags to avoid spreading contamination.

**WHERE BELZONA® 1111 SHOULD NOT ADHERE**

Brush on a thin layer of Belzona® 9411 (Release Agent) and allow to dry for 15-20 minutes before proceeding to step 2.

2. **COMBINING THE REACTIVE COMPONENTS**

Transfer the entire contents of the Base and Solidifier modules on to the Belzona® Working Surface. Mix thoroughly together to achieve a uniform material free of any streakiness.

3. **MIXING SMALL QUANTITIES**

   For mixing small quantities of Belzona® 1111 use:
   
   3 parts Base to 1 part Solidifier by volume
   5 parts Base to 1 part Solidifier by weight

4. **VOLUME CAPACITY OF MIXED BELZONA® 1111**

   24.3 cu.in. (398 cm³) per kg.

5. **APPLYING BELZONA® 1111**

   **FOR BEST RESULTS**

   Do not apply when:
   
   (i) The temperature is below 41°F (5°C) or the relative humidity is above 90%.
   
   (ii) Rain, snow, fog or mist is present.
   
   (iii) There is moisture on the metal 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) Apply the Belzona® 1111 directly on to the prepared surface with the plastic applicator or spatula provided.

   b) Press down firmly to fill all cracks, remove entrapped air, and ensure maximum contact with the surface.

   c) Over cracks, gaps and holes, stipple in Belzona® 9341 (Reinforcement Tape).

   d) Contour the Belzona® 1111 to the correct profile with the plastic applicator or alternatively allow to cure and then machine down.

6. **CLEANING**

   Mixing tools should be cleaned immediately after use with Belzona® 9111 or any other effective solvent e.g. Methyl ethyl ketone (MEK). Brushes, injection guns, spray equipment and any other application tools should be cleaned using a suitable solvent such as Belzona® 9121, MEK, acetone or cellulose thinners.
4. COMPLETION OF THE MOLECULAR REACTION

Allow Belzona® 1111 to solidify as below subjecting it to the conditions indicated.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Movement or use involving no loading or immersion</th>
<th>Machining and/or light loading</th>
<th>Full mechanical or thermal loading</th>
<th>Immersion in chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>41°F/ 5°C</td>
<td>4 hours</td>
<td>6 hours</td>
<td>4 days</td>
<td>5 days</td>
</tr>
<tr>
<td>50°F/10°C</td>
<td>3 hours</td>
<td>4 hours</td>
<td>2 days</td>
<td>4 days</td>
</tr>
<tr>
<td>59°F/15°C</td>
<td>2½ hours</td>
<td>3 hours</td>
<td>1½ days</td>
<td>3 days</td>
</tr>
<tr>
<td>68°F/20°C</td>
<td>1¼ hours</td>
<td>2 hours</td>
<td>1 day</td>
<td>2 days</td>
</tr>
<tr>
<td>77°F/25°C</td>
<td>1 hour</td>
<td>1½ hours</td>
<td>20 hours</td>
<td>1½ days</td>
</tr>
<tr>
<td>96°F/30°C</td>
<td>¾ hour</td>
<td>1 hour</td>
<td>16 hours</td>
<td>1 day</td>
</tr>
</tbody>
</table>

These times are for a thickness of approximately 0.25 inch (6 mm); they will be reduced for thicker sections and extended for thinner sections.

5. EFFECTING THE SECONDARY MOLECULAR REACTION

The mechanical properties, heat resistance and chemical resistance of Belzona® 1111 will be improved by post curing.

After 2 - 4 hours of applying Belzona® 1111, post cure the material using forced air heaters, heat lamps, etc. for a minimum of 4 hours at 140-212°F (60-100°C).

Generally, the higher the post cure temperature adopted, the higher the properties attained.

6. APPLICATION OF A FURTHER LAYER OF BELZONA® 1111

Whenever possible the Belzona® 1111 should be applied in a single layer to achieve the required thickness. When applying additional layers is unavoidable, additional material should be applied as soon as possible whilst first layer is still soft and ideally within 60 minutes.

If the Belzona® 1111 is no longer soft the surface must be roughened by abrading or flash blasting before applying further Belzona® 1111.