Permabond 2-part epoxy adhesives are suitable for bonding a wide variety of materials. Available with a range of different cure speeds to suit, Permabond epoxies have been developed to offer a high standard of performance for demanding bonding applications.

**Substrates**
Permabond 2-part epoxy adhesives will bond most engineering materials. They form excellent structural bonds to a wide variety of materials including metals, composites, wood and even some plastics.

**Durability**
Their excellent chemical and water resistance makes them suitable for harsh environmental conditions. These epoxies are an excellent choice for high-strength structural bonding.

**Applications**
Epoxies are widely used in the marine, automotive, aerospace, appliance, general assembly and construction industries. Applications are diverse and include bonding handles onto tools, aerospace structures, kitchen counter tops, motor housings and mounting brackets.

**Material Selection**
The high strength durable bonds formed with a vast array of substrates increases the designer’s ability to choose the best substrates for the application.

**Process**
These 1:1 mix epoxies can be easily dispensed with a static mixing nozzle. No measuring or hand mixing is needed. Heat cure is not needed as the adhesives will cure at room temperature. For cure times faster than those stated on the chart on page 2, heat can be used to increase the speed of cure.

**Joint Design**
The high shear and peel strength of the bonds, coupled with the increased stress distribution of adhesives, greatly expands joint design possibilities.

**Benefits**
- High peel strength increases design versatility
- 1:1 mix ratio of most Permabond 2-component epoxies reduces equipment costs
- Durability increases material choices
- Rapid cure increases production rates
- Room temperature cure reduces equipment & energy costs
- Solvent free improves workplace safety
- Low odour improves workplace environment
This table represents a selection of the complete range of Permabond two-part epoxy adhesives. For more detailed technical information and product Material Safety Data Sheets, visit www.permabond.com. To discuss your specific application requirements, please call the Permabond Helpline and our technical advisors will recommend the best adhesive for you or discuss the development of a new grade or product modification to meet your technical requirements.

Permabond Epoxy Adhesives Comparison Chart

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Colour</th>
<th>Mixed Viscosity mPa.s = cP</th>
<th>Max. Gap Fill (mm) in</th>
<th>Pot Life</th>
<th>Handling Strength</th>
<th>Shear Strength (N/mm²) psi</th>
<th>Peel Strength (N/25mm) PIW</th>
<th>Service Temp. (°C) °F</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET500</td>
<td>Very fast curing, clear, non-yellowing.</td>
<td>Clear, transparent</td>
<td>13,000-24,000</td>
<td>(2.0) 0.08</td>
<td>3 - 4 mins</td>
<td>5 - 8 mins</td>
<td>(12-18) 1750-2600</td>
<td>(5-20) 1-4</td>
<td>(-40 to +80)</td>
<td>-40 to +175</td>
</tr>
<tr>
<td>ET505</td>
<td>Tough, structural multipurpose adhesive for bonding a wide variety of materials.</td>
<td>Amber</td>
<td>12,000-27,000</td>
<td>(2.0) 0.08</td>
<td>1 - 2 hours</td>
<td>3 - 5 hours</td>
<td>(18-21) 2600-3000</td>
<td>(60-80) 13-18</td>
<td>(-40 to +80)</td>
<td>-40 to +175</td>
</tr>
<tr>
<td>ET510</td>
<td>Rapid curing and flexible for excellent impact and peel resistance.</td>
<td>Clear, transparent</td>
<td>22,000-39,000</td>
<td>(2.0) 0.08</td>
<td>10 - 20 mins</td>
<td>20 - 40 mins</td>
<td>(8-12) 1200-1750</td>
<td>(70-90) 16-20</td>
<td>(-40 to +80)</td>
<td>-40 to +175</td>
</tr>
<tr>
<td>ET514</td>
<td>Toughened. Excellent flow control.</td>
<td>Grey Thixo</td>
<td>12,000-22,000</td>
<td>(2.0) 0.08</td>
<td>30 - 50 mins</td>
<td>60 - 120 mins</td>
<td>(18-20) 2600-2900</td>
<td>(60-80) 13-18</td>
<td>(-40 to +100)</td>
<td>-40 to +215</td>
</tr>
<tr>
<td>ET515</td>
<td>Clear and flexible, again with excellent peel and impact resistance.</td>
<td>Slightly amber</td>
<td>12,000-22,000</td>
<td>(2.0) 0.08</td>
<td>10 - 20 mins</td>
<td>20 - 30 mins</td>
<td>(8-12) 1200-1750</td>
<td>(70-90) 16-20</td>
<td>(-55 to +100)</td>
<td>-65 to +215</td>
</tr>
<tr>
<td>ET536</td>
<td>Toughened, thixotropic, excellent gap fill and flow control.</td>
<td>Grey Thixo</td>
<td>12,000-22,000</td>
<td>(2.0) 0.2</td>
<td>50 - 80 mins</td>
<td>90 - 120 mins</td>
<td>(15-24) 2200-3500</td>
<td>(60-80) 13-18</td>
<td>(-40 to +80)</td>
<td>-40 to +175</td>
</tr>
<tr>
<td>ET538</td>
<td>Toughened, thixotropic, excellent gap fill and flow control. Long pot life for large assemblies.</td>
<td>Grey Thixo</td>
<td>12,000-22,000</td>
<td>(2.0) 0.2</td>
<td>120 - 150 mins</td>
<td>3 - 5 hours</td>
<td>(18-20) 2600-2900</td>
<td>(60-80) 13-18</td>
<td>(-40 to +80)</td>
<td>-40 to +175</td>
</tr>
<tr>
<td>ET5401</td>
<td>Toughened, 2:1 mix ratio, excellent gap fill and no slump, high temperature resistant. Properties enhanced by heat curing.</td>
<td>Amber Thick Paste</td>
<td>12,000-22,000</td>
<td>(2.0) 0.2</td>
<td>10 - 12 mins</td>
<td>60 - 90 mins</td>
<td>(20-30)* 2900-4400</td>
<td>(250-300)* 55-66</td>
<td>(-40 to 140°C)</td>
<td>-40 to +280°C (continuous) (+180°C)+356°F (peak)</td>
</tr>
</tbody>
</table>

Cure-speed varies depending on ambient temperature, the cure times quoted above were tested at 20°C. Generally a rise of 8°C will halve the cure speed (conversely a drop of 8°C will double the cure speed). For further information please contact Permabond for individual technical and safety data sheets.

Permabond Worldwide
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