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EPOXY HIGH TEMPERATURE ADHESIVE SYSTEM 551A/551B

551A with 551B is a rapid setting, low viscosity, epoxy system designed for use where temperatures may reach 177°C and may be used in many diverse bonding applications. The system gels at room temperature, but requires a post cure to achieve maximum properties.

HANDLING PROPERTIES

| | VALUE | TEST METHOD |
|----------------------------------|------------|-------------|
| Resin Density, g/cc | 1.15 | ASTM E-201 |
| Hardener Density, g/cc | 0.99 | ASTM E-201 |
| Resin Viscosity @ 25°C, cps | 3,800 | ASTM D-2393 |
| Hardener Viscosity @ 25°C, cps | 70 | ASTM D-2393 |
| Viscosity Mixed @ 25°C, cps | 1,800 | ASTM D-2393 |
| Mix Ratio By Weight | 100A : 18B | Calculated |
| Mix Ratio By Volume | 6A : 1B | Calculated |
| Gel Time @ 25°C, 150g mass, min. | 30 - 35 | ASTM D-2471 |
| Tack Free @ 25°C, hours | PCR | ASTM D-2471 |

PHYSICAL PROPERTIES

| | VALUE | TEST METHOD |
|---------------------------|--------|-------------|
| Colour | Amber | Visual |
| Shore D Hardness | 88 | ASTM D-2240 |
| Tensile Strength, MPa | 85 | ASTM D-638 |
| Tensile Modulus, MPa | 3,210 | ASTM D-638 |
| Tensile Elongation, % | 3.7 | ASTM D-638 |
| Compressive Strength, MPa | 128 | ASTM D-695 |
| Flexural Strength, MPa | 116 | ASTM D-790 |
| Flexural Modulus, MPa | 3,275 | ASTM D-790 |
| HDT, RT Cure, °C | PCR | ASTM D-648 |
| HDT, Post Cured, °C | 177 | ASTM D-648 |
| Izod Impact, Notched, J/m | 66 | ASTM D-256 |
| Shrinkage, m/m | <0.003 | ASTM D-2566 |

CURE INCREMENTS:

High temperature epoxy systems require an elevated temperature post cure to enable the resin and hardener to develop their full physical and temperature properties. Select one of the following cure schedules depending upon the physical properties of the master and the desired physical properties of the final tool. Please contact Base Group technical department if you find it necessary to have a different post cure schedule.

| | Option I | Option II |
|------------------|----------|-----------|
| 24 hrs. @ (25°C) | X (S) | X (S) |
| 2 hrs. @ (66°C) | X (S) | |
| 4 hrs. @ (66°C) | | X (S) |
| 1 hrs. @ (93°C) | X (S) | X (U) |
| 1 hrs. @ (121°C) | X (S) | X (U) |
| 1 hrs. @ (149°C) | X (S) | X (U) |
| 1 hrs. @ (177°C) | X (S) | X (U) |

S = Supported

U = Unsupported



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Store at 16-38°C in a dry place. After use, tightly reseal.

The resin component may crystallize during storage. If crystallized, vent container and heat to 55-65°C until crystals dissolve. Stir well after product has liquefied.

Always use clean dry tools for mixing and applying. Mix according to the mix ratio stated for the specific product as listed on the front page. Mix together thoroughly and use immediately. Material temperatures should not be below 18°C when mixing.

SAFETY HANDLING:

Work in well ventilated areas using gloves, eye protection and clothing protection. Avoid contact to the skin and eyes. Avoid clothing contamination. Wash thoroughly after handling. These products may cause skin and respiratory allergic reactions. Consult Safety Data Sheets for complete precautions with this product.

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