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| **Shanghai Horse ConstructionProduct Data Sheet**Edition 8.2.2020 | 图片包含 应用程序  描述已自动生成

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| **HM-120** |
| **High Performance Steel Plate Bonding Epoxy Adhesive** |

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| **Description** | HM-120 High Performance Steel Plate Bonding Epoxy Adhesive is two-component, room temperature curing adhesive for externally bonded steel plate. |
| **Where to Use** | Bonding steel plates to surfaces of beams, slabs, walls and columns for structural strengthening. |
| **Advantages** | ■ Thixotropic and non-sagging up to 2-3 cm thickness with lower hollow area.■ Strong bond.■ Suitable for most substrates.■ High percentage of effective ingredients.■ Fatigue and impact resistance.■ High shear strength.■ High durability.■ Good resistance to water.■ Appropriate curing time, easy handling within a wide range of temperatures. ■ Uniform mixing without bubbles. |
| **Packaging** | Component A: 20kg/barrel | Component B: 10kg/barrel |

**Typical Data**

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| **Shelf Life** | 12 months in original, unopened containers |
| **Storage Conditions** | Store dry at -5 °C ~ 40 °C |
| **Color** | Component A: Grey paste | Component B: Brown paste |
| **Mixing Ratio** | Component A: Component B =2: 1 by weight |
| **Pot Life** | Spring & Fall (23 °C) | Summer (30 °C) | Winter (10 °C) |
| $\geq $50 min | $\geq $40 min | 50~180 min |
| **Tack-Free Time** | Approximately 2 hours |
| **Glass Transition Temperature (Tg)** | 70 °C |
| **Density** | 1.8 ± 0.1 g/cm³ |
| **Thixotropic Index (TI)** | $\geq $4.0 |

**Mechanical Properties**

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| **Property** | **Test Method (GB50728-2011)** |
| **Tensile Strength** | $\geq $35 MPa | @ (23 ± 2) °C, (50 ± 5) % R.H. |
| **Tensile Modulus** | $\geq $5000 MPa |
| **Tensile Elongation** | $\geq $1.2% |
| **Bending Strength** | $\geq $50 MPa |
| **Compressive Strength** | $\geq $80 MPa |
| **Metal-Metal Lap Shear Strength** | $\geq $22 MPa |
| **Metal-Metal Tensile Bond Strength** | $\geq $36 MPa |
| **Metal-Concrete Bond Strength** | $\geq $2.5 MPa, and C60 concrete damage |
| **Heat Deflection Temperature (HDT)** | $\geq $65 °C | 21 days Constant bending load of 0.45 MPa |
| **Non-volatile Matter** | $\geq $99% | @ (105 ± 2) °C, (50 ± 5) min |

**Long-term performance**

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| **Environmental Resistance** | **Loss of shear strength** | **Test Method (GB50728-2011)** |
| **Moist-Heat Resistance** | $\leq $12% | 90 days, @ 50 °C, 90 % R.H.Compared with the short-term results at room temperature |
| **Heat Aging Resistance** | $\leq $5% | 30 days, @ (80 ± 2) °C Compared with the 10 min short-term results at the same temperature |
| **Freeze-Thaw Resistance** | $\leq $5% | -25°C ⇌ 35 °C, 8 hours per cycle, 50 cyclesCompared with the short-term results at room temperature |

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| **Stress Resistant** | **Test Method (GB50728-2011)** |
| **Long-term Stress Resistance** | No shear damage in Metal-Metal Lap Shear Test.Creep deformation $\leq $0.4 mm | 210 days, @ (23 ± 2) °C, (50 ± 5) % R.H.Shear stress of 4.0 MPa |
| **Fatigue Resistance** | No shear damage in Metal-Metal Lap Shear Test under cyclic sine wave loading. | 2×106 cycles at room temperatureStress ratio of 5:1Maximum stress of 4.0 MPaCycling frequency of 5 Hz  |

**Corrosion resistance performance**

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| **Corrosion resistance** | **Test Method (GB50728-2011)** |
| **Salt Spray Resistance** | Loss of shear strength $\leq $5%  | No cracks or degumming | Metal-Metal Lap Shear Test |
| **Alkaline resistance** | Concrete damage | No cracks, peeling or blistering | Metal-Concrete Bond Test |
| **Acid resistance** | Concrete damage | No cracks or degumming | Metal-Concrete Bond Test |

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| **Construction Process** | Substrate treatment → Levelling → Lofting → Drilling location confirming → Bar planting → Steel plate treatment → Mixing → Application → Steel bonding → Fixing and compressing → Curing → Protection treatment |
| **Attention** | ■ Use necessary protective equipment (e.g., facemasks, gloves, goggles, etc.).■ Take appropriate fire protection measures and keep work areas well ventilated.■ Flush the skin immediately upon contaminated.■ Seek emergency medical attention If the adhesive is accidentally swallowed or splashed into the eyes. |

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