|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Shanghai Horse Construction Product Data Sheet** Edition 8.2.2020 | 图片包含 应用程序  描述已自动生成   |  | | --- | |  | |  |  | |
| **HM-120** | | | |
| **High Performance Steel Plate Bonding Epoxy Adhesive** | | | |

|  |  |  |
| --- | --- | --- |
| **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**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **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) |
| 50 min | | 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)** | | 4.0 | | | |

**Mechanical Properties**

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

**Long-term performance**

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

|  |  |  |
| --- | --- | --- |
| **Stress Resistant** | | **Test Method (GB50728-2011)** |
| **Long-term Stress Resistance** | No shear damage in Metal-Metal Lap Shear Test.  Creep deformation 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 temperature  Stress ratio of 5:1  Maximum stress of 4.0 MPa  Cycling frequency of 5 Hz |

**Corrosion resistance performance**

|  |  |  |  |
| --- | --- | --- | --- |
| **Corrosion resistance** | | | **Test Method (GB50728-2011)** |
| **Salt Spray Resistance** | Loss of shear strength 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 |

|  |  |
| --- | --- |
| **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. |

|  |  |
| --- | --- |
| 文本  描述已自动生成徽标, 公司名称  描述已自动生成   |  | | --- | | **For more information, please visit our website at  www.horseen.com** | |