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**Technical Data Sheet**

# FX 191BL3

## One Component Moisture Curing Silicone adhesive/sealant

### Product Description

FX191BL3 is one component moisture curing silicone adhesive / sealant. It does not require any additional processes and can be cured after the resin is released. It is used for plastics, mental and glass bonding. The curing mechanism exhausts alcohol gas. There is no odor like PU discharged isocyanate (NCO) and the odor discharged by deoximation and deacidification. This product has the advantages of convenient manufacture process and low harm design.

### Features

1. One component dealcoholized sealant.
2. This product will fast cure in the air. Its tacky time is 15 minutes.
3. It has great thixotropy, which will not sag. It is paste, which can be applied on FIPG.
4. This product has good bonding properties to metals and plastics without any primer.
5. There will be no harmful gas corrosion and damage to materials.
6. There is no problem of catalyst poisoning and can be widely used in various materials
7. The cured material is soft and tough, which has resistance to long-term compression.
8. Great resistance to temperature, humidity, and yellowing.
9. This prodcut complies to the 2011/65/EU RoHS regulations.

### Typical Uncured Properties

| | FX191BL3 |
|---|---|
| Composition | Polysiloxane resin |
| Appearance | Liquid |
| Color | Black |
| Viscosity 25°C, S14 3rpm, cps | 300,000~600,000 |
| Thixotropic Index | >4 |
| Dispensing Rate* ASTM D2452,g/min | 650 |
| Specific Gravity@25°C | 1.5 |
| pH Value | 6~8 |
| Solvent Content, % | 0 |

*Use 3.2mm diameter spray nozzle to measure the dispense rate under 0.5Mpa

### Typical Curing Properties

| | |
|---|---|
| Surface Dry Time*1, 25°C/50%RH, min*1 | 15 |
| Through Cure Time*2, 25℃, day | 7 |

*1 Surface dry time refers to the time required for the product to use polyethylene film on the surface of the colloid and remove it, and the colloid will not adhere to the surface of the film.

*2 Please consult use instruction 4.

### Direction of Use

1. It should be applied to a clean surface which is free of dirt, grease or mold release. In many cases, a simple solvent wipe is sufficient.
2. Pour or brush this product onto the substrates, it does not recommend to stir to avoid interfusing the air. This product will be cured with the air. The curing propeties depend on its thickness, curing temperatrue and relative humidity.
3. Use this product as soon as possible after opening the original packages. When not using, please replace the rid tightly and store in a cool and dry place.
4. Cure time on the really part will depend on factors, such as part geometry, materials to be bonded, bondline thickness and humidity.
5. Cured product will not be harmful to human when it contacts with the skin.

### Typical Cured Properties

| | |
|---|---|
| Hardness (Durometer) ASTM D2240, ShoreA | 30 |
| Hardness (Durometer) ASTM D2240, Shore00 | 80 |
| Glass Transition Temp, °C | <-40 |
| CTE*, ppm | 114 |
| Water Absorption Ratio (25°C /24hr), % | 0.24 |
| Tensile Strength, ASTM D412,MPa | 2.2 |
| Elongation at Break, ASTM D412, % | 608 |
| Peel Strength, ASTM D412-die B, kN/m | 12 |
| Volume Shrinkage, % | 0.13 |
| Shear Strength, PC vs. PC, kgf/cm$^2$ | 12 |
| Shear Strength, ABS vs. ABS, kgf/ cm$^2$ | 10 |
| Shear Strength, PMMA vs. PMMA, kgf/ cm$^2$ | 8 |
| Shear Strength, PET vs. PET, kgf/ cm$^2$ | 12 |
| Shear Strength, PVC vs. PVC, kgf/ cm$^2$ | 16 |
| Shear Strength, Cooper vs. Cooper, kgf/ cm$^2$ | 14 |
| Shear Strength, SUS vs. SUS, kgf/ cm$^2$ | 14 |
| Shear Strength, Glass vs. Glass, kgf/ cm$^2$ | 21 |
| Shear Strength, Al vs. Al, kgf/ cm$^2$ | 13 |
| Shear Strength, Nylon vs. Nylon, kgf/ cm$^2$ | 12 |
| Thermal Conductivity, W/mK | 0.25 |
| Temperature Range, °C | -40~200 |

* CTE: Coefficient of Thermal Expansion

### Heat intensity

Al v.s. Al after bonding, Curing conditions: 25℃*50%RH*7 days

| Test temperature (°C) | Shear Strength (kgf/cm$^2$) |
|---|---|
| 25 | 13 |
| 50 | 13 |
| 80 | 13 |
| 100 | 12 |
| 150 | 10 |
| 200 | 10 |

## Heat aging

Al v.s. Al after bonding, Curing conditions: 25℃*50%RH*7 days

| Stand at 200 ℃ oven / Test time (hr) | Shear Strength, kgf/cm$^2$ |
|---|---|
| 0 | 13 |
| 100 | 22 |
| 300 | 23 |
| 500 | 24 |

## Storage and Shelf Life

The container should be stored in cool and dark place. This product should be kept without any possibility of moisture exposure. Replace the lid immediately after use. This product has six months shelf life when stored in dark place at 14~34$^o$C in original, unopened containers.

## Caution

Some findings indicate a lack of potential for carcinogenicity with the compositions of this product by long term recurrent application to the skin. However, contact with skin is likely to produce mild transient reddening. It is important to remove adhesive from skin with soap and water thoroughly. DO NOT use solvents for cleaning hands. This product is of moderate acute toxicity by swallowing. If swallowed, call a physician. Avoid contact with eyes. In case of contact, flush with water for at least 15 minutes and get medical attention immediately. For specific information on this product, consult the Material Safety Data Sheet.