BUILDING TRUST

PRODUCT DATA SHEET

# Sikadur®-22 Lo-Mod FS

LOW-MODULUS, FAST SETTING, MEDIUM-VISCOSITY, EPOXY RESIN BINDER

## PRODUCT DESCRIPTION

Sikadur®-22 Lo-Mod FS is a 2-component, 100% solids, moisture-tolerant, fast setting epoxy resin binder. It conforms to the current ASTM C-881, Grade-1 and AASHTO M-235 specifications.

## USES

Sikadur®-22 Lo-Mod FS may only be used by experienced professionals.
Use neat as the binder resin for a skid-resistant broadcast overlay. Use also as the binder resin for epoxy mortar and concrete for patching and overlays.

## CHARACTERISTICS / ADVANTAGES

- Fast Setting for quick turn around
- Meets 3 h/1000 psi requirement when mixed as an epoxy mortar
- Tolerant to moisture both before and after cure
- Convenient easy mix ratio A:B = 1:1 by volume
- Excellent strength development
- Leveling viscosity for easy, efficient application of a broadcast overlay
- Successfully used in HFST applications. Refer to local DOT specs. for product acceptance

## PRODUCT INFORMATION

| | |
|---|---|
| **Chemical Base** | Epoxy Resin |
| **Packaging** | 4 gallon (15 L) units / 110 gallon (416 L) unit / 660 (2498 L) gallon totes.<br>**Note: Part A of the Sikadur® 22 Lo-Mod, Sikadur®-22 Lo-Mod FS and Sikadur® 21 Lo-Mod LV is a universal component of these three products.** |
| **Color** | Clear to light amber |
| **Shelf Life** | 24 months in original, unopened containers |
| **Storage Conditions** | Store dry at 40–95 °F (4–35 °C)<br>Condition material at 65–85 °F (18–29 °C) before using. |
| **Volatile organic compound (VOC) content** | <20 g/L |
| **Viscosity** | Approximately 2,000 cps |

## TECHNICAL INFORMATION

**Shore D Hardness**

72

(ASTM D-2240)
73 °F (23 °C)
50 % R.H.

**Compressive Strength**

| | 40 °F(4 °C) | 73 °F (23 °C) | 90 °F (32 °C) |
|---|---|---|---|
| 3 hours | - | 1750 psi | 3600 psi |
| 8 hours | 2000 psi | 4400 psi | 6400 psi |
| 1 day | 4500 psi | 6500 psi | 8000 psi |
| 3 days | 5500 psi | 7500 psi | 8500 psi |
| 7 days | 8500 psi | 8500 psi | 9000 psi |
| 14 days | 9000 psi | 9000 psi | 9000 psi |
| 28 days | 9000 psi | 9000 psi | 9000 psi |

Material cured and tested at the temperatures indicated and 50 % R.H.

(ASTM C-579)

**Modulus of Elasticity in Compression**

| | |
|---|---|
| 7 days | 40,000 psi |
| 28 days | 40,000 psi |

(ASTM C-579)
73 °F (23 °C)
50 % R.H.

**Tensile Strength**

| | Mortar 1:3 | Neat |
|---|---|---|
| 7 day | 1200 psi | 2650 psi |

(ASTM D-638)
73 °F (23 °C)
50 % R.H.

**Elongation at Break**

| | Mortar 1:3 | Neat |
|---|---|---|
| 7 day | 40 % | 55 % |

(ASTM D-638)
73 °F (23 °C)
50 % R.H.

**Tensile Adhesion Strength**

| | Mortar 1:3 | Neat |
|---|---|---|
| 1 day | - | > 550 psi (concrete failure) |
| 7 days | - | > 570 psi (concrete failure) |

(ASTM C-1583; ACI 503R)
73 °F (23 °C)
50 % R.H.

**Shear Strength**

| | Mortar 1:3 | Neat |
|---|---|---|
| 7 day | 2600 psi | 3430 psi |

(ASTM D-732)
73 °F (23 °C)
50 % R.H.

**Thermal Compatibility**

Pass

(ASTM C-884)

**Abrasion Resistance**

| | Mortar 1:3 | Neat |
|---|---|---|
| 14 day, Weight loss, 1,000 cycles* | 2.0 grams | 0.030 grams |

* (H-22 wheel; 1,000 gm weight for mortar/ C-17 wheel, 1,000 gm wt for neat)

(Taber Abrader)
73 °F (23 °C)
50 % R.H.

**Water Absorption**

| | Mortar 1:3 | Neat |
|---|---|---|
| 7 day (24 hour immer-sion) | - | <0.20 % |

(ASTM D-570)
73 °F (23 °C)
50 % R.H.

**Rapid Chloride Permeability**

0 coulombs

(AASHTO T-277)

## APPLICATION INFORMATION

**Mixing Ratio**

Component ‘A’:Component ‘B’ = 1:1 by volume.

**Coverage**

1 gal. yields 231 $in^3$

**Mortar Binder** - 1 gal. of mixed Sikadur® 22 Lo-Mod FS with the addition of 5 gal. by loose volume of an oven dried sand, yields approximately 808 cu. in. of epoxy mortar

**Pot Life**

Approximately 15–20 minutes (60 gram mass; ASTM C-881)

**Waiting / Recoat Times**

| | **60–64 °F (16-18 °C)** | **65–69 °F (19-21 °C)** | **70–74 °F (21-23 °C)** |
|---|---|---|---|
| Coat 1 | 4–4 ½ h | 2 ½–3 h | 2–2 ½ h |
| Coat 2 | 5 ½–6 h | 4 ½–5 h | 4 h |
| | **75–79 °F (24-26 °C)** | **80–84 °F (27-29 °C)** | **85+ °F (29+ °C)** |
| Coat 1 | 2 h | 1.5 h | 1 h |
| Coat 2 | 3 h | 3 h | 2 ½–3 h |

Average Substrate and Material Temperature. These set times were determined under laboratory conditions, actual set times may vary based on on-site conditions

# APPLICATION INSTRUCTIONS

## SUBSTRATE PREPARATION

Surface must be clean and sound. It may be dry or damp, but free of standing water. Remove dust, laitance, grease, curing compounds, impregnations, waxes and any other contaminants.

**Preparation Work: Concrete** - Should be cleaned and prepared to achieve a laitance and contaminant free, open textured surface by blast cleaning or equivalent mechanical means.

**Steel** - Should be cleaned and prepared thoroughly by blast cleaning to white metal finish.

## MIXING

Mixing Pre-mix each component. Proportion equal parts by volume of Component 'A' and 'B' into clean pail. Mix thoroughly for 3 min. with Sika  paddle on low-speed (400–600 rpm) drill until uniformly blended. Mix only that quantity that can be used within pot life.

**To prepare epoxy mortar** - Slowly add 5 parts by loose volume of oven-dried sand to 1 part mixed resin.

## APPLICATION METHOD / TOOLS

**Broadcast Overlay** - Prime the prepared substrate with Sikadur®-22 Lo-Mod FS. While primer is still tacky, spread mixed Sikadur®-22 Lo-Mod FS with a 3/16 in. (4.7 mm) notched squeegee. When material levels, broadcast the oven-dried aggregate slowly allowing it to settle in the epoxy binder.
Ultimately the broadcast aggregate should be applied to excess at a rate of 2 $lb./ft^2$ (0.9 $kg/m^2$) Remove excess broadcast aggregate after epoxy has set. Priming is an optional step in the broadcast overlay applications.

**Epoxy Mortar** - Prime prepared substrate with mixed Sikadur®-22 Lo-Mod FS. While primer is still tacky, apply epoxy mortar by trowel or vibrating screed. Finish with finishing trowel. Priming is mandatory when using the Sikadur®-22 Lo-Mod FS as an epoxy mortar.

## LIMITATIONS

- Minimum substrate and ambient temperature 40 °F (4 °C).
- Minimum age of concrete before application is 21–28 days depending upon curing and drying conditions.
- For on grade, split-slab and unvented metal pan deck, please consult Sika Technical Service regarding moisture limitations.
- Maximum thickness 1/2 in. (13 mm) exterior exposed to thermal change.
- Do not dilute. Addition of solvents will prevent proper cure.
- Use oven-dried aggregates only.
- Material is a vapor barrier after cure.
- Not an aesthetic product. Color may alter due to variations in lighting and/or UV exposure.
- For HFST applications, system and application details are governed by local DOT & AASHTO specification.

## BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

## LOCAL RESTRICTIONS

See Legal Disclaimer.

## ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

## LEGAL DISCLAIMER

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