Product Data Sheet

**PRODUCT NAME**

Si-Rex03™
Silicone Resin Emulsion Paint (SREP)

**NORTH AMERICA DISTRIBUTOR/MANUFACTURER**
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**DESCRIPTION**

Si-Rex03 by Klaas Coatings is a state-of-the-art exterior architectural wall and facade coating specifically for use on concrete and masonry substrates. Use of an advanced silicone resin binder system delivers a sophisticated matte finish with outstanding performance benefits.

Si-Rex03 protects the substrate with excellent water repellency - it also allows the substrate to breathe almost unhindered. This property minimizes potential for peeling and flaking from entrapped moisture. The coating has a self-cleaning effect and excellent resistance to microbial attack; keeping the surface looking cleaner longer.

The silicone resin binder is not just about water-repellency - its tough, quartz-like structure acts as "reinforcing" for excellent weather resistance that resists chalking and outlasts conventional paint systems; repaint intervals up to 20-years or more versus 7-8 years for that of conventional paints for significantly lower maintenance costs.

Using only UV resistant inorganic oxide pigments that are highly resilient to UV exposure, Si-Rex03 comes in a standard range of 200 earthy, fade resistant colors suited perfectly for concrete and masonry surfaces and a natural look that conveys quality.

While durability and protection are key benefits of Si-Rex03, it is the look and finish that people notice; the mineral matte surface eliminates gloss and side sheen and colors appear clean and true whilst helping hide surface irregularities in mineral substrates.

Exterior use only. Not for surfaces horizontal (roofs, decks) that can pool water or below-grade prone to hydrostatic pressure.

**KEY BENEFITS**

**Excellent Water Repellency**
- Protects the substrate by keeping it dry
- Provides a self cleaning effect
- Minimizes microbial attack

**High Vapor Permeability**
- Open structure allows entrapped moisture to escape
- Reduces relative humidity (RH) within substrate to negate ASR and/or DEF occurrence

**Quartz-like Structure**
- High durability to weathering and UV exposure
- Resistance to dilute alkali and acids
- Tough and abrasion resistant

**Performance Matters**
- High adhesion for coating stability
- Resistant to chalking
- Protection for extended service life of structures

**Mineral Matte Finish and Inorganic Pigments**
- Matte finish helps hide substrate irregularities
- Complements mineral substrates
- Fade resistant colors - even under severe UV exposure
- 200 standard colors in natural tones
- Computer controlled color tinting and color matching

**Easy Application**
- High opacity
- Can be applied in wide range of conditions
- Apply by roller, spray or brush

**Water Based**
- Easy clean up
- Environment friendly
- Lower range VOC (Volatile Organic Compounds)

**AREAS OF USE**

<table>
<thead>
<tr>
<th></th>
<th>Priming</th>
<th>Si-Rex03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cast-in-Place Concrete</td>
<td>Recommended</td>
<td>yes</td>
</tr>
<tr>
<td>Precast Concrete</td>
<td>Recommended</td>
<td>yes</td>
</tr>
<tr>
<td>Cement Stucco/Plaster</td>
<td>Required</td>
<td>yes</td>
</tr>
<tr>
<td>Skim Coat</td>
<td>Required</td>
<td>yes</td>
</tr>
<tr>
<td>Brickwork</td>
<td>Required</td>
<td>yes</td>
</tr>
<tr>
<td>Blockwork</td>
<td>Required</td>
<td>yes</td>
</tr>
<tr>
<td>Fiber Cement Sheet</td>
<td>Required</td>
<td>yes</td>
</tr>
<tr>
<td>Stone</td>
<td>Required</td>
<td>yes</td>
</tr>
<tr>
<td>Wood</td>
<td>See note*</td>
<td>yes</td>
</tr>
<tr>
<td>Metals</td>
<td>See note*</td>
<td>yes</td>
</tr>
<tr>
<td>Glass</td>
<td>See note*</td>
<td>yes</td>
</tr>
<tr>
<td>PVC</td>
<td>See note*</td>
<td>yes</td>
</tr>
<tr>
<td>Previous Painted</td>
<td>yes</td>
<td></td>
</tr>
</tbody>
</table>

(* refer primer options next page)

**SITE PREPARATION**

Ensure all property, vehicles and surfaces not set for coating are protected from product, residue, splash and wind drift. Use drop cloths or other proven protective materials.

Protect and/or divert pedestrian and vehicular traffic.

**SURFACE PREPARATION**

All surfaces should be clean and free from contaminants such as dust, dirt and release oil, any loose concrete or grout removed. Surfaces may be slightly damp but not wet.

Allow new concrete, masonry and stucco to cure a minimum of 14-days prior to application.

Allow cementitious patch repairs to cure a minimum of 7-days prior to application.

If needed, pressure clean to remove all dirt, dust, grease, oil, loose particles, laitance, foreign material, peeling and defective coatings, chalk, form release agents, moisture curing membranes, etc. Remove all mildew.
For tilt-up and poured-in-place concrete, commercial detergents and sandblasting may be necessary to remove sealers, release compounds to create an adequate key.
Apply to concrete surfaces with pH level up to 10.
For coastal area structures check for salt contamination.

**Primer - Porous Surfaces**
Stucco, skim coat, concrete block, fiber cement sheet, brick and stone surfaces require priming with **Si-Prime** by Klaas Coatings prior to Si-Rex03 application.

**Primer - Non-Porous Surfaces**
For cast-in-place concrete and precast concrete priming is recommended with **Si-Prime** or **Cremsil** by Klaas Coatings prior to Si-Rex03 application.

**Primer – PVC, Aluminum, Galvanized Metal, Tile, Wood**
For non-cementitious surface types and specialist applications **UltraCryl UnderPrep**, an ultra premium acrylic primer/sealer/undercoat from Klaas Coatings allows Si-Rex03 color/finish to be carried over onto PVC drains, sign supports and metal panels.

**Previously Painted Surfaces**

a) **Good Condition** - The existing paint must show no signs of cracking, peeling or flaking. The surface must be cleaned to remove all dirt and contaminants by washing with an appropriate cleaner, rinse thoroughly and allowed to dry. If surfaces are glossy, abrade with wire brush or sand dust to create an adequate key.
b) **Poor Condition** - Remove all cracking, peeling and poorly adhered paint. Clean surface and remove all dirt and contaminants.

**WARNING** Removal of old paint by sanding, scraping or other means may generate dust or fumes that contain lead. Exposure to lead dust or fumes may cause brain damage or other adverse health effects, especially in children or pregnant women. Controlling exposure to lead or other hazardous substances requires the use of proper protective equipment, such as a properly fitted respirator (NIOSH approved) and proper containment and clean up. Contact the National Lead Information Center at 1-800-424-LEAD (in USA) or your local health authority for further information.

**Stains**
Address causes of efflorescence and other moisture-related stains. Stains caused by water, smoke, ink, pencil, grease, etc. should be cleaned as practical then sealed with a suitable sealer.

**Cracking**
a) **Hairline Cracks** - Paint cracked areas first by brush filling to be flush with surface prior to the first coat.
b) **Larger Cracks** - either patch with suitable filling compound to match surface texture or add fine silica sand to paint to make a putty. Fill in thin layers to be flush with the surface.

**Holes, Honeycombs and Voids**
Fill bug holes, air pockets and other voids with a suitable filling/patching compound. Mix texture of the surrounding substrate (i.e. smooth for in-situ concrete, grainy for stucco).

**Test Area**
Test each type of surface for suitability and results including color and finish before overall application.

Make up a test area of a least 4 feet by 4 feet on each type of surface applying product to application guidelines. Let coating cure on each test area before inspection and check color, finish and adhesion.

If priming with **Si-Prime** or **Cremsil** apply test area and check penetration and surface residue once dry. Excess residue, minimal penetration and/or poor adhesion may point to previous coating treatment or residual curing compound and may negate use of a primer.

Keep test reference available throughout project.

**APPLICATION EQUIPMENT**
Use roller, brush or conventional and airless spray.

**Brush**
Use a nylon/polyester brush.
Avoid over-brushing that causes air bubbles.

**Roller**
Use 3/8” to 1/2” nap synthetic roller cover on semi-rough surfaces such as precast; 3/4” to 1-1/4” on rough surfaces such as concrete block and textured stucco. Avoid rapid rolling that causes air bubbles.

**Spray—Airless**
Pressure, minimum ................. 2300 psi
Tip, minimum...................... .025”
Spray using a “cross coat” technique (horizontal pass followed by a vertical pass).

**Cleaning**
During application, if leaving equipment to stand, the spray heads should be left to soak in water to prevent blocking.
All tips, spray head, rollers and brushes must be cleaned with large amounts of water at conclusion of work; spray equipment to be also flushed with water.
After cleaning in water, flush spray equipment with mineral spirits to prevent rusting of the equipment.
Use a solvent such as acetone to remove old dried material or use mechanical means.
If equipment, such as spray heads, is accidentally left containing product, let soak in water for 24–48 hours. After soaking, run equipment or strip down if necessary; refer equipment manufacturer’s guidelines for care and cleaning.

**THEORETICAL COVERAGE**
Minimum of two (2) coats @ 240-360 ft²/gal per coat (6-9 m²/L per coat); note:
a) Surface texture and substrate porosity affects application rate; apply a test area to determine actual coverage.
b) Some deep tint base colors may require three coats to achieve full opacity.

**PRACTICAL COVERAGE**
Minimum of two (2) coats @ 260-280 ft²/gal per coat smooth cast-in-place concrete surface*.
Minimum of two (2) coats @ 300-320 ft²/gal per coat high compressive strength (8,000-10,000psi) precast concrete smooth finish beams*.
(*apply test area to determine actual coverage given temperature, humidity and substrate conditions)
When Spraying
- Work from the top down.
- Back roll spray applications for good adhesion and even coating thickness plus minimize pinholes.
- Brush out runs or drips.

When Rolling
- Always box paint for a given batch and section to be painted
- Brush out runs or drips.
- When applying the final coat always finish to an edge.
- Avoid painting in hot direct sunlight or on dry/hot windy days.
- Only touch up where the same tin or boxed batch has been used. Do not touch-up with unboxed or different pails.

Recoat Times
The 12-hour wait period before applying the second coat Si-Rex03 is a value to cover a scope of applications including those in adverse weather conditions such as cool temperatures, still wind, high humidity and near dew point during application and the subsequent drying/curing period.

Recoat times can be substantially reduced under favorable drying/curing conditions. Such conditions broadly encompass application to a dry substrate in ambient temperatures ranging from 65°F to 85°F and lower humidity levels; a light breeze can also assist.

2 Hour Reccoat
If the first coat of Si-Rex03 is touch dry within 15-minutes; allow further 2 hours to dry/cure prior applying second coat Si-Rex03.

4 Hour Reccoat
If the first coat of Si-Rex03 is touch dry within 30-minutes; allow further 4 hours to dry/cure prior applying second coat Si-Rex03.

Note:
The full plane of applied material needs to be touch dry with the last area of application usually last to dry and/or there are areas with a slightly higher WFT (wet film thickness).

Storage and Handling
Store in a cool, dry place. Always seal container after use. Do not alter or mix with other chemicals. Published shelf life assumes upright storage of factory-sealed containers in a dry place. Keep from freezing. Use appropriate safety and job site controls during application and handling; read the full label and SDS for precautionary instructions before use.

Cleanup Information
Dam any major spills and collect with suitable absorbent material such as cotton rags. Clean up spill remnants and any spatters immediately with soap and warm water. Clean hands and skin areas with soap and warm water. Dispose of contaminated materials, unused product and container in accordance with local, state or federal regulations.

Warranty
15-Year durability where substrate is sound and manufacturer’s recommendations have been followed. Refer warranty and disclaimer for details.

Packaging
- 5 Gallon Pail
- 1 Gallon Can
- 55 Gallon Drum
Custom packaging upon request.
## Product Data Sheet

### Product Information

<table>
<thead>
<tr>
<th>Color</th>
<th>200 Standard Colors - Can Color Match</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finish</td>
<td>Mineral Matte</td>
</tr>
<tr>
<td>Solids, by Weight</td>
<td>55% +/- 5%</td>
</tr>
<tr>
<td>Solids, by Volume</td>
<td>43% +/- 4%</td>
</tr>
<tr>
<td>Typical Thickness</td>
<td>2.2 mil (56 μm) DFT / 5.0 mil (125 μm) WFT per coat</td>
</tr>
<tr>
<td>Theoretical Coverage</td>
<td>240-360 ft²/gal (6-9 m²/L) per coat.</td>
</tr>
<tr>
<td>Practical Coverage</td>
<td>Allow Substrate Condition/Texture and Applicable Loss Factors</td>
</tr>
</tbody>
</table>

### Typical Performance Data

| Wind Driven Rain Resistance               | Pass | No weight change; no noticeable defects in the coating |
| Water Vapor Transmission                  | 38.13 Perms | WVT 13.878 grains/hr-ft² |
| Tensile Adhesion on Concrete              | Average Pull-Off Strength of 394.6 psi, 2.72 N/mm² |
|                                         | Average Pull-Off Strength of 710 psi, 4.9 N/mm² |
| Mold Resistance                           | No evidence of mold growth (28-days) |
| Abrasion Resistance                       | 31.31 L/mil Falling Sand |
| Accelerated Weathering                    | No overall change observed in coating |
|                                        | No Cracking, Flaking, Peeling, Softening or other defects noted |
| Flexibility                               | Average Elongation 13.8% |
|                                        | Average Resistance to Cracking 0.364" |
| Freeze-Thaw Resistance                    | No Chalking, Checking, Cracking or other deleterious effects |
| Salt Spray Resistance                     | No Chalking, Checking, Cracking or other deleterious effects |
| Solids by Weight                          | 53.61%* |
| Solids by Volume                          | 39.91%* |
| VOC                                       | 1.97 lbs/gal, 237 g/L* |
| *light tint base                          | **fixed alignment Type II – not scored/small load fixture (DL Labs) |

### Application

<table>
<thead>
<tr>
<th>Application Method</th>
<th>Roller, Brush and Conventional and Airless Spray</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coats</td>
<td>2 Coats</td>
</tr>
<tr>
<td>Priming</td>
<td>Si-Prime or Cremsil on porous surfaces and in higher temperature regimes to help assist with wet edge</td>
</tr>
<tr>
<td>Drying Time @ 25°C (77°F) &amp; 50% Relative Humidity</td>
<td>Touch Dry</td>
</tr>
<tr>
<td></td>
<td>Water Resistant</td>
</tr>
<tr>
<td></td>
<td>Recoat</td>
</tr>
<tr>
<td></td>
<td>Overnight (indefinite maximum)</td>
</tr>
<tr>
<td>Application Temperature Range (surface temperature)</td>
<td>50°F to 90°F (10°C to 32°C)</td>
</tr>
<tr>
<td>Clean-up</td>
<td>Water (refer to Safety Data Sheet)</td>
</tr>
</tbody>
</table>

Note: The information presented is intended as a guide only and is correct to the best of our knowledge at the time of publication. It should not be considered as a definitive approval for suitability for a particular purpose. Please contact the manufacturer, distributor or approved applicator for confirmation of suitability. The specifier and/or purchaser shall be responsible for conducting tests to determine the suitability of this product for their particular purpose.