



## Moisture curing single pack urethane finish

### PRODUCT DESCRIPTION

**Rayston AC-TOP 1K** is single pack polyurethane, moisture curing coating designed to create decorative finishing layer in single pack moisture-curing systems urethane coatings.

**Rayston AC-TOP 1K** has excellent resistance to UV, colour stability, atmospheric influence and abrasion resistance.

The coating can be applied at high relative humidity, subzero temperatures and without restrictions on the dew point.

### RECOMMENDED USE

**Rayston AC-TOP 1K** is recommended as a finish color coat in systems requiring strong high-quality semi-gloss atmosphere resistant surface coating. Custom colors are available upon request.

It is used in anti-corrosion coating systems in conjunction with moisture curable polyurethane primer for long-term protection (up to 25 years) steel surfaces exposed to conditions of medium, high and very high atmospheric corrosion categories (C3, C4, C5-I and C5-M - ISO -12944-2), as well as in all areas of immersion in water or sea water (Im1 and Im2 - ISO-12944-2) underwater area, alternating wetting and splash areas.

### SURFACE PREPARATION

All surfaces must be prepared and primed. The coated surfaces must be dry and clean.

### STIRRING

**Rayston AC-TOP 1K** is single pack material and it must be thoroughly stirred to achieve completely homogeneous material. Before opening and stirring the temperature of material must be at least 3°C above dew point.

Before application the material must be thoroughly stirred using a mechanical stirrer. If stirring bubbles were formed in the paint, it is necessary to give the paint to settle for 30 minutes.

The constant stirring is not required.

#### Thinning:

**To achieve the best decorative properties is absolutely necessary to add a 10% by volume of Rayston Solvent**

Thinner must be used according to regional and national regulatory standards.

**NOTE:** If other than recommended thinners are used the manufacturer is not responsible for deterioration of coating quality.

After stirring the surface of the material in the bucket must be covered with the approximately 100-200 ml of solvent in order to avoid humidity penetration and the bucket must be resealed after it (in case of slow speed of spraying or bad weather condition). (For more details please contact Krypton Chemical).

#### Clean Up:

The equipment must be cleaned with the thinner immediately after the work is finished.

### APPLICATION CONDITIONS

In case the prepared surface is visually dry, without condensation or ice, **Rayston AC-TOP 1K** can be applied without any limitations on dew point and relative air humidity under temperatures from -18°C to 40°C for ambient air as well as substrate.

Viscosity of the primer will be increase at lower temperatures. In order to maintain an application viscosity and prevent excessive thinning of the coating, temperature of coating should be maintained not lower than +15°C during application.

The surface must be visually dry, however **Rayston AC-TOP 1K** cannot be applied in rain or snow, or if the applied material does not have enough time to become touch dry before it is subjected to rain or snow.

### APPLICATION METHODS

#### Spray application

The main method of application is airless spray. The air application method is suitable.

#### Brush application

This method is recommended for stripe coating and small areas touch-up. It is necessary to monitor the wet film thickness and dry film thickness corresponded to the thickness demanded.

### APPLICATION DATA

#### Airless application recommendations:

|                    |   |
|--------------------|---|
| Pressure at nozzle | 12,5-18 MPa   |
| Nozzle tip         | 0,013-0,021"  |
| Spray angle        | 40-80°  |
| Filter             | To provide filter cleanliness.<br>Filter Size – 60 mesh (250 µm). |

### FILM THICKNESS AND PAINT COVERAGE

|                              |             |
|------------------------------|-------------|
| Dry film thickness, µm       | 50 – 80     |
| Wet film thickness, µm       | 71 – 114,29 |
| Theoretical Coverage, sq.m/l | 14,0 – 8,75 |

\* Excessive film thickness will cause longer drying, weak adhesion, blistering, cratering, solvent entrapment and possible correction of defects might be required.

### PHYSICAL PROPERTIES

|                                 |                              |
|---------------------------------|------------------------------|
| COLOUR                          | RAL<br>and other colours     |
| VOLUME SOLIDS, %                | 70 ± 2                       |
| GLOSS                           | Semigloss                    |
| VOC: (Volatile Organic Content) | < 340g/l                     |
| DENSITY                         | 1,5 ± 0,05 g/cm <sup>3</sup> |
| DRY HEAT RESISTANCE:            |                              |
| LONG:                           | 145°C                        |
| SHORT:                          | 175°C                        |
| IMPACT RESISTANCE: (ASTM 2794)  | >5 J                         |
| ADHESION: (ASTM D4541)          | >4 MPa                       |
| WATER RESISTANCE                | EXCELLENT                    |
| SOLVENT RESISTANCE              | GOOD                         |

### DRYING TIMES AND TEMPERATURES WITH RH > 60%<sup>1</sup>

| Temperature: | Touch dry |
|--------------|-----------|
| -18°C        | 9 hours   |
| -10°C        | 7 hours   |
| 0°C          | 2 hour    |
| 10°C         | 2 hour    |
| 23°C         | 1,30 hour |
| 40°C         | 1 hour    |

| Temperature: | Min. overcoating interval <sup>2,3</sup> |
|--------------|--|
| -18°C        | 50 hours                                 |
| -10°C        | 38 hours                                 |
| 0°C          | 12 hours                                 |
| 10°C         | 9 hours                                  |
| 23°C         | 7 hours                                  |
| 40°C         | 5 hours                                  |

| Temperature: | Complete polymerization |
|--------------|-------------------------|
| -10°C        | n/d                     |
| 0°C          | n/d                     |
| 10°C         | 10 days                 |
| 23°C         | 7 days                  |
| 40°C         | 5 days                  |

<sup>1</sup> the curing and polymerization time is influenced by Relative Humidity, temperature, ventilation conditions and film thickness.

<sup>2</sup> If the surface is clean there is no maximum overcoating interval.

<sup>3</sup> Drying Time is specified for overcoating only with WG moisture cured polyurethane materials. The use of other materials as overcoats is possible only after the WG coat is fully polymerized, otherwise curing process may be blocked.

### SHELF LIFE

The material must be used within 12 months after production. **The product must be stored at temperatures from 5°C to 30°C in original sealed containers.**

### HEALTH AND SAFETY

**Rayston AC-TOP 1K** can be used safely but it is recommended to follow our instructions. **Rayston AC-TOP 1K** is flammable in a liquid condition. It is necessary to keep it out of the open fire and high temperatures.

During the application procedures the protecting gloves must be used. The ventilation level must be appropriate. Use respiratory mask with appropriate, certified and dust filter when spraying this product.

For detailed information on the health and safety hazards and precautions for use of this product, we refer to the Safety Data Sheet.



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### **PACKAGE SIZE**

The material is delivered in 10 liters & 12 liters cans.

### **OTHER INFORMATION**

The information contained in this DATA SHEET, as well as our advice, both written as verbal or provided through testing, are based on our experience, and they do not constitute any product guarantee for the installer, who must consider them as simple information.

We recommend to study deeply all information provided before proceeding to the use or application of any of our products, and strongly advise to conduct tests "on-site" in order to determine their convenience for a specific project.

Our recommendations do not exempt of the obligation of installers to deeply study the right application method for these systems before use, as well as to conduct as many preliminary tests as possible should any doubt arise. The application, use and processing of our products are beyond our control, and therefore under the exclusive responsibility of the installer. In consequence, the installer will be the only responsible of any damage derived from the partial or total in-observation of our indications, and in general, of the inappropriate use or application of these materials.

**This Data Sheet supersedes previous versions.**