

TECHNICAL INFORMATION

FOR PROFESSIONAL USE ONLY

RANGERS

2K POLYURETHANE PROTECTIVE COATING 3:1

PRODUCTS

RANGERS - 2K polyurethane protective coating

Hardener for RANGERS

Premium Universal 2K Thinner

PRODUCT DESCRIPTION

2-component polyurethane protective Coating with a structured effect. The product has excellent chemical (oil, gasoline, water, salt) and mechanical resistance (scratches, stains). Resistant to weather conditions (UV filters) and corrosion (anti-corrosive agents). Can be applied on a various of substrates. It can be applied with the UBS antigravel gun as well as with a conventional gravity spray gun.



COLOR: black, tintable

VOLATILE ORGANIC COMPOUNDS

VOC for the mixture using an UBS gun = 389 [g/l]

VOC for the mixture using a gravity feed gun (3:1+20%) = 530 [g/l]

The share of VOC for the mixture is below 840g/l. These products fulfill the EU directive (2004/42/WE) that sets the VOC value for this product category (kat.B/5), as 840 g/l.




SURFACE PREPARATION

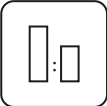





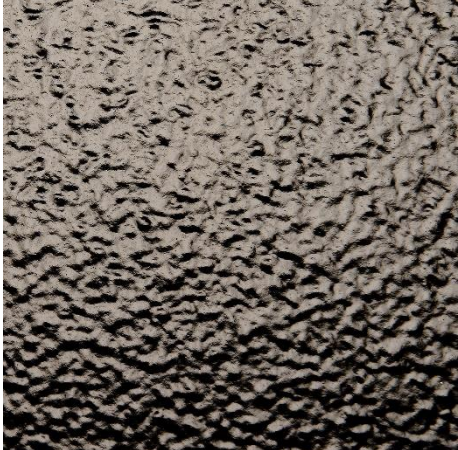

- Existing 2K coatings – exercise caution and conduct a solvent test to check the quality condition of the substrate.
- Always abrade, clean and degrease the surface before application.
- Do not apply the product on 1K primers. Instead, always prime the surfaces for the Rangers application with a 2k acrylic primer, 2K epoxy primer or 2k etching primer.
- Always wait the proper drying and hardening time of etching primer before application.
- Do not apply Rangers directly on bare original paint or directly on coatings of car body parts from the aftermarket.

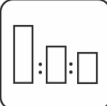




Substrates:



- Steel, galvanized steel, stainless steel, aluminum - apply after pre-sanding the surface with sandpaper of grade P180 to P320 or cleaning the surface with abrasive blasting to a cleanliness level of Sa 2 ½ according to PN-ISO 12944-4.
NOTE: To increase anti-corrosion protection and adhesion, it is recommended to apply Rangers over Troton epoxy or reactive primers (wash primer).
- Polyester laminates – sand using abrasive paper P180 or by using Troton's unwoven abrasive fabric, clean and degrease (Silicone Remover Troton).
- Polyester body fillers - sand using abrasive paper with gradation from P120 to P240, clean and degrease (Silicone Remover Troton).
- Plastic surfaces - degrease (Silicone Remover Troton), sand with abrasive paper P240 or with Troton's unwoven abrasive fabric, degrease again (Silicone Remover Troton), prime with an adhesive promoter, such as Plastic Primer Troton. Due to the many different types of plastic, adhesion testing is advised.

APPLICATION

|    | | UBS | CONVENTIONAL GUN |
|---|---------------------------------|----------------------|------------------------|
| | Mixing ratio | 3:1 | 3:1+10÷20% |
| | Nozzle | - | 1.4÷2.5 mm |
| | Inlet pressure | 2÷4 bar | 2 bar |
| | Distance | 20÷50 cm | 20÷50 cm |
| | Number of layers | 2 | 2 |
| | Flash off between layers | 30÷50 minutes | 30÷50 minutes |
| | Ready for assembly | 3 days | 3 days |
| | Through dry (severe conditions) | 7 days | 7 days |
| | Efficiency | 2,5÷3 m ² | 3,5÷6,5 m ² |


| APPLICATION PROCESS RANGERS BLACK/FOR COLOR | | | | | |
|---|--|--|-----------|-----------|-------------------|
| UBS Gun | | | | | |
|  | MIXING RATIO 3:1 | | by volume | by weight | POT LIFE |
| | RANGERS | | 630 ml | 790 g | about 1 h at 20°C |
|  | Hardener | | 210 ml | 210 g | |
| | Shake the product before opening. Open the lid, add hardener and close back the lid. Shake very well. | | | | |
|  | DRYING TIME | | | | |
| | Dust dry: 1 h/ 20°C Touch dry - ready for assembly: 3 days/ 20°C Through dry (severe conditions): 7 days/ 20°C Temperatures below 20°C significantly increase the hardening time. | | | | |
|  | BAKING | | | | |
| | In order to accelerate the physical drying time we recommend baking under a maximum temperature of 45°C for 50-60 minutes. Before baking wait the appropriate evaporating time of 1,5 to 2 hours after application. ATTENTION! Baking does not accelerate the dry through time. It is recommended to wait 7 days to achieve total hardness of the coating (under severe conditions). | | | | |
|  | NUMBER OF LAYERS | | | | |
| | 2 layers - 1 dry layer of approx. 150µm. 1. First layer – spray evenly with sweeping motion and pressure of 2-4 bar until the proper coverage is obtained. The distance from the surface to be painted should be of 50cm. 2. Allow to flash off for 30÷50 minutes between coats. 3. In order to obtain the desired texture reduce the pressure and increase the distance from the surface to be painted. To achieve fine texture, apply the second layer with a fine mist spray by reducing the pressure and material flow. The distance from the object and pressure change the created structure. | | | | |
|  |  | | | | |
| |  | | | | |

| APPLICATION PROCESS RANGERS BLACK/FOR COLOR | | | | | |
|---|--|--|-----------|-----------|-------------------|
| GRAVITY FEED SPRAY GUN | | | | | |
|  | MIXING RATIO 3:1 | | by volume | by weight | POT LIFE |
| | RANGERS | | 630 ml | 790 g | about 1 h at 20°C |
|  | Hardener | | 210 ml | 210 g | |
| | Thinner | | 84÷168 ml | 74÷148 g | |
|  | Shake the product before opening. Open the lid, add hardener and close. Shake very well. Add thinner and shake again until all elements have been incorporated. | | | | |
| | DRYING TIME | | | | |
|  | Dust dry: 1 h/ 20°C Touch dry - ready for assembly: 3 days/ 20°C Through dry (severe conditions): 7 days/ 20°C Temperatures below 20°C significantly increase the hardening time. | | | | |
| | BAKING | | | | |
|  | In order to accelerate the physical drying time we recommend baking under a maximum temperature of 45°C for 50-60 minutes. Before baking wait the appropriate evaporating time of 1,5 to 2 hours after application. ATTENTION! Baking does not accelerate the dry through time. It is recommended to wait 7 days to achieve total hardness of the coating (under severe conditions). | | | | |
| | | | | | |

| NUMBER OF LAYERS | |
|---|---|
|  | 2 layers - 1 dry layer of approx. 50µm |
| | Parameters for gravity feed gun Nozzle: 1,4÷2,5 mm; Inlet pressure: 2,0 bar. |
| | <ol style="list-style-type: none"> 1. First layer – spray evenly with sweeping motion, pressure of 2 bar until the proper coverage is obtained. The distance from the surface to be painted should be of 40 cm. 2. Allow to flash off for 30÷50 minutes between coats. 3. In order to obtain the desired texture reduce the pressure and increase the distance from the surface to be painted. |
| | To achieve fine texture, apply the second layer with a fine mist spray by reducing the pressure and material flow. The distance from the object and pressure change the created structure. |
| |  |

| RANGERS FOR COLOR |
|---|
| Color can be added to the tintable Rangers version with the addition of diluting products (for the whole mixture) <ul style="list-style-type: none"> • Acrylic solvent borne basecoat toner- 5÷10% • Acrylic solvent borne basecoat- 10÷15% • Acrylic solvent borne topcoat- 10÷15% |
| RANGERS BLACK/FOR COLOR |
| Rangers can be over coated. Wait 24 hours for the product to dry. Abrade surface with Troton's fine unwoven abrasive fabric, clean and degrease (Silicone Remover Troton). |
| ANTI-SLIP ADDITIVE |
| To create a non slip surface add TROTON RANGERS anti-slip additive powder (10g). <ol style="list-style-type: none"> 1. Packaging contains 10g of anti-slip additive needed to fill one bottle of RANGERS protective coating (1kg/840ml mixture). 2. Pour the contents directly into the RANGERS bottle, add hardener and shake very well for about 2 minutes. 3. A non slip surface can be achieved by using an UBS or conventional gun. The anti-slip additive can be added to all layers or only to the last one. |

| RANGERS BLACK | | HARDENER | |
|---------------|------|----------|-----|
| ml | g | ml | g |
| 210 | 263 | 70 | 70 |
| 315 | 395 | 105 | 105 |
| 630 | 790 | 210 | 210 |
| 1260 | 1580 | 420 | 420 |
| 1890 | 2370 | 630 | 630 |

| RANGER APPLICATION | |
|--|---|
| PNEUMATIC SPRAY APPLICATION WITH LOWER FEED | |
| <ul style="list-style-type: none"> • pressure tank • pneumatic pumps • piston pumps | |
|  | Spray nozzle Nozzle: 1.8÷2.5 mm* |
| | Pressure Material pressure: 3÷6 bar* |
| | Atomization pressure: 0.8÷2.5 bar* |
| | Fine structure - atomization pressure: 0.8÷2.5 bar* |
| | Coarse structure - atomization pressure: 0.8÷1.5 bar* |
| * according to the recommendations of the equipment manufacturer | |

GENERAL NOTES

- Do not exceed recommended doses of hardener!
- The best results can be achieved at room temperature. The temperature in the body shop and the temperature of the product should be similar.
- When working with 2K products, it is recommended to use personal protection equipment. Protect the eyes and respiratory system.
- The rooms should be well ventilated.
- Clean the guns and equipment immediately after use.

Caution: To maintain safety, always follow the instructions given in the MSDS for the products.

STORAGE

Store the product components in temperatures of 15 to 25 °C, in a sealed container, in dry and cool places, away from fire and heat sources, as well as direct sunlight.

Note:

1. Immediately close the tins after each use!
2. Protect hardener against freeze and humidity!

WARRANTY PERIOD

| | |
|--|---|
| RANGERS - 2K polyurethane protective coating | – 24 months from the date of production |
| Hardener for RANGERS | – 18 months from the date of production |
| Premium Universal 2K Thinner | – 24 months from the date of production |

| PRODUCT | Art. No. |
|------------------------------|---------------------------------|
| RANGERS 1 kg / set | 12196 (tintable); 12167 (black) |
| RANGERS 15,8 kg | 15574 (tintable); 15575 (black) |
| Hardener for RANGERS 4,2 kg | 15576 |
| Premium Universal 2K Thinner | 300008645 (1l) |

LIMITATION OF LIABILITY

The information contained in the TDS is up-to-date and correct on the day the information is released.

Because TROTON can not control or predict the conditions under which a product will be used, each user should review information in the specific context of the intended usage. To the maximum extent permitted by applicable law, TROTON shall not be liable for damages of any kind arising from the use or reliance on information contained in this TDS.

Given the variety of factors that can affect the usage and application of the TROTON product, some of which are only within the user's knowledge and control range, it is essential that the user evaluate the TROTON product to determine if the product is fit for a particular purpose and whether the product is suitable for the user's usage.

Under no circumstances shall TROTON be liable to the user or any third party for any indirect, derivative, incidental, special or punitive damages, including loss of profits resulting from the use of products manufactured by TROTON and / or TROTON's services.

All information are based upon the precise laboratory studies and many years of experience. The good market position does not release us from the constant supervision of our products quality. However, we are not responsible for the final effects of the improper storage or application of our products, as well as for work inconsistent with the good craft practice.

TROTON Sp. z o.o.
Ząbrowo, Poland.