

TECHNICAL INFORMATION

FOR PROFESSIONAL USE ONLY

RANGERS

2K polyurethane protective coating

3:1

PRODUCTS

RANGERS 3:1- 2K polyurethane protective coating.
Hardener for RANGERS 1:3.
Thinner for acrylic systems TROTON.

PRODUCT DESCRIPTION

2-component polyurethane protective Coatings with structure effect. Tough coating offers great chemical resistance against oil, gasoline, water and salt; as well as mechanical resistance against scratches and stains. High performance formulation contains UV Filters and anticorrosive additives that effectively protect against extreme climatic conditions, color fading, rust and corrosion. Can be applied on various substrates with an UBS antigravel gun or any conventional gravity feed spray gun.

- ✓ Tough durable coating
- ✓ Great chemical and mechanical resistance
- ✓ Soundproofing properties
- ✓ Anti-slip structure

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.

SUBSTRATES AND PREPARATION

- ✓ Do not apply the product directly on bare metal. Rangers should be applied on primed surfaces or on 2K topcoats and basecoats after proper preparation (be careful with the application on old coatings, thinner testing is advised).
- ✓ 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.

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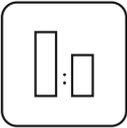
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Tel/Fax: +48 94 35 126 22 Website: www.troton.com.pl Email: troton@troton.com.pl

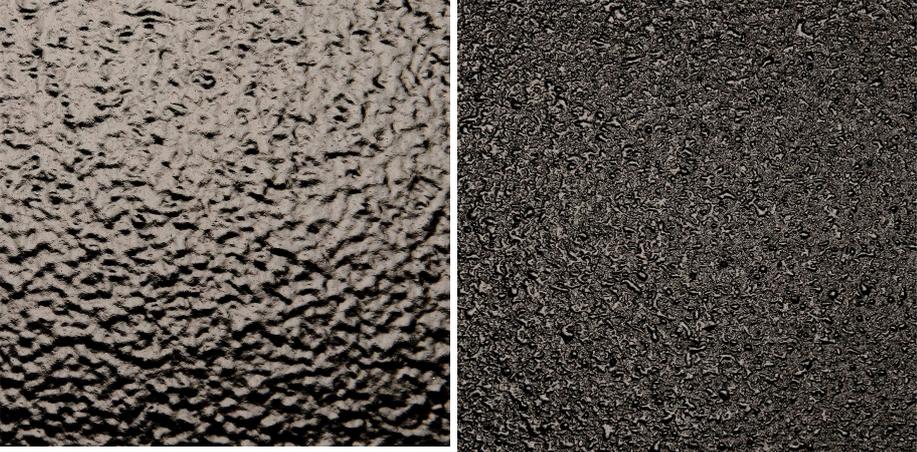
- ✓ Always wait the proper drying and hardening time of etching primer before application.
- ✓ Do not apply Rangers directly on bare original paint or directly on coatings of car body parts from the aftermarket.

Substrates:

- Steel, galvanized steel, stainless steel, aluminum – prime surfaces with a 2K epoxy primer or 2K acrylic primer, sand using abrasive paper with gradation from P180 to P320, clean and degrease (Silicone Remover Troton).
- 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.

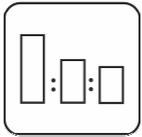
APPLICATION PROCESS RANGERS black/ tintable

| UBS Gun | |
|---|---|
|  | <p>Proportion ratio:</p> <p>3:1 By weight: 790g+210g By volume: 630ml+210ml</p> <p>Shake the product before opening. Open the lid, add hardener and close back the lid. Shake very well.</p> |
|  | <p>Pot life</p> <p>About 1 h at 20°C</p> |

| | |
|---|---|
|  | <p>Number of layers 2 layers. 1 dry layer of approx. 150µm.</p> <ol style="list-style-type: none"> 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. <p>To achieve fine texture, apply the second layer with a fine mist spray by reducing the pressure and material flow.</p> <p>The distance from the object and pressure change the created structure.</p>  |
|  | <p>Drying time</p> <p>Dust dry: 1 h/ 20°C Touch dry - ready for assembly: 3 days/ 20°C Through dry (severe conditions): 7 days/ 20°C</p> <p>Temperatures below 20°C significantly increase the hardening time.</p> <p>Baking</p> <p>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.</p> <p>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).</p> |

APPLICATION PROCESS RANGERS black/ tintable

Gravity feed spray gun

**Proportion ratio:**

3:1 + 10÷20% thinner for acrylic systems TROTON

By weight: 790g+210g+74÷148g

By volume: 630ml+210ml+ 84÷168ml

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.

**Pot life**

about 1 h at 20°C

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.

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 40cm.
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.

| | |
|---|--|
| |  |
|  | <p>Drying time</p> <p>Dust dry: 1 h/ 20°C Touch dry - ready for assembly: 3 days/ 20°C Through dry (severe conditions): 7 days/ 20°C</p> <p>Temperatures below 20°C significantly increase the hardening time.</p> <p>Baking</p> <p>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.</p> <p>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).</p> |

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|---|
| <p>RANGERS tintable</p> |
| <p>Color can be added to the tintable Rangers version with the addition of diluting products (for the whole mixture)</p> <ul style="list-style-type: none"> • Acrylic basecoat toner- 5÷10% • Acrylic basecoat- 10÷15% • Acrylic topcoat- 10÷15% |

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| <p>RANGERS black/ tintable</p> |
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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).

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.

| RANGRS 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 |

| | APPLICATION | | |
|---|------------------|----------|------------------|
| | | UBS | Conventional gun |
|  FILL | Proportion ratio | 3:1 | 3:1+10÷20% |
| | nozzle | - | 1.4÷2.5 mm |
|  SHAKE | Inlet pressure | 2÷4 bar | 2 bar |
| | Distance | 20÷50 cm | 20÷50 cm |
| | Number of layers | 2 | 2 |

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| | | | |
|---|---------------------------------|----------------------|------------------------|
|  | Flash off between layers | 30÷50 minut | 30÷50 minut |
| | Ready for assembly | 3 dni | 3 dni |
| | Through dry (severe conditions) | 7 dni | 7 dni |
| | Efficiency | 2,5÷3 m ² | 3,5÷6,5 m ² |

GENERAL NOTES

- ✓ Do not exceed recommended doses of hardener!
- ✓ Using such clear coats remember to spray first the edges and cavities and leave the front surfaces for the last stage of application. Thus we can avoid superfluous dust creation and achieve a smooth finish.
- ✓ Best results of application are achieved when using a professional baking booth, or when varnishing in a room specially suited for this goal with room temperature of 20°C / 68°F .
- ✓ Room temperature and the temperature of the product should be the same.
- ✓ When working with 2K products, clean guns and equipment immediately after use.
- ✓ The rooms should be well ventilated.

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 3:1 – 12 months from the production date.
 Hardener 1:3 for RANGERS - 12 months from the production date.
 Thinner to acrylic systems - 12 months from the production date.

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.

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