



### **TECHNICAL DATA SHEET & PROCESS GUIDE**

#### **TOUGH PROTECTIVE COATING**

U-POL's RAPTOR Tough and Tintable Protective Coating is a 2K polyurethane coating that provides surfaces with a protective barrier. RAPTOR Tintable is also available.

#### **FEATURES**

#### DURABLE

Provides tough mechanical damage and stain resistant surface.

Protects against rust and corrosion.

#### UV RESISTANT

Delivers a high level of fade resistance.

#### WATER RESISTANT

Provides a water resistant finish, keeping moisture out and reducing rust.

#### RESISTANT

Resistant to a wide range of chemicals including fuels, hydraulic oils, animal urine, salt water and more.

#### QUICK & EASY TO USE

Easy as Fill-Shake-Shoot.

Provides excellent adhesion across many substrates.

Can be applied with Schutz Gun, HVLP gun, roller or brush.

#### **CERTIFICATES**

#### FIRE RESISTANCE

RAPTOR has passed flammability testing for motor vehicles according to the test methods FMVSS 302, ISO 3795 & BS AU 169A.

#### SLIP RESISTANCE

When used with RAPTOR Traction Additive it produces a finish meeting BS7976-2.





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#### SUBSTRATES AND PREPARATION

**Substrates** 

Original Paint

Polyester Fillers

SMC

Aluminium\*

Rigid Plastic\*

E-coat\*

Bare Metal\*

Fiberglass

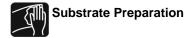
Concrete\*

Galvanized\*

GRP

Wood\*

 Some substrates require additional surface preparation before applying RAPTOR. See Substrate Preparation section for details.



To achieve best results with RAPTOR, good preparation is essential.

- 1. Remove all loose material and any rust from the surface to be coated.
- 2. Clean and degrease the surface.
- 3. Abrade the surface with P80 -P180 grit sand paper.
- 4. Re-clean the surface.
- \* Aluminium, bare metal, and galvanized: Localized rub-thrus: prime with an etch primer, such as two coats of U-POL ACID#8.

Large exposed areas of bare metal: Full 2K primer system required for optimum adhesion and corrosion resistance.

- \* Rigid Plastic: after abrading, clean and degrease then use an adhesion promoter, such as U-POL's GRIP#4 or System 2003.
- \* Wood: RAPTOR can go direct to stable wood.

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- \* Concrete: for best results, clean the surface and remove dust. Seal first with proprietary concrete sealer before applying RAPTOR.
- \* OEM E-Coat: scuff the surface with an coarse abrasive pad then clean and degrease.
- 5. For hard to reach areas such as internal corners etc. coat first with a suitable adhesion promoter for optimal adhesion.

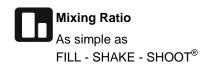




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#### **MIXING**









	SCHUTZ Gun	HVLP Gravity Gun
RAPTOR : Hardener	3:1	3:1
U-POL SYSTEM 20 Fast Thinners		Up to 15-20% maximum to reduce the texture. About 25% more coverage* *Addition of thinner/reducer will affect the product VOC.

Simply FILL the RAPTOR coating bottle with 250ml of hardener, replace cap and SHAKE contents vigorously for at least 2 minutes. SHOOT.

#### Mixing by weight

Grams	Coating (A)	Hardener (B)
1000g	777g	223g
500g	388g	112g

Use of an accelerator is not required.

Only mix one bottle of RAPTOR at a time. Clean gun between mixes.

Do not overtighten cap as this may cause the cap to split.

#### **2K ISOCYANATE HARDENER**

- Specially designed to provide optimum results independent of climatic conditions and size of repair.
- RAPTOR hardener must not be used on its own, it can only be used with RAPTOR coating.

Shelf Life 12 months in unopened containers. Lids must be replaced after every use.

Storage Temperature +5°C (41°F) - +25°C (77°F)





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#### **APPLICATION**

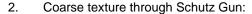
#### Standard Schutz Application

- 1. Remove cap from RAPTOR bottle with the mixed RAPTOR.
- 2. Attach the RAPTOR bottle to the U-POL SCHUTZ GUN.
- 3. Adjust the air pressure to 2.75 4.10 bar (40-60 PSI).
- 4. Apply to the prepared surface with an even sweeping motion to obtain the desired texture.
- 5. If applying additional coats allow to flash off for 60 minutes between coats.

U-POL recommends that you spray a test panel with RAPTOR first to ensure the desired texture is achieved.

#### How to achieve common textures with a U-POL Schutz Gun;

- 1. Standard texture through Schutz Gun:
  - Ø 4 Bar (60 PSI)
  - Ø Distance from object 50cm (1.5 foot)
  - Ø 2 coats with an even sweeping motion



- Ø Mix RAPTOR and allow to stand for 10-minutes
- Ø 3 Bar (45 PSI)
- Ø Distance from object 50cm (1.5 foot)
- Ø 2 coats 1 even sweeping motion, 2nd dropping the coat over the first

#### How to achieve common textures with a HVLP gun;

- 3. Fine texture through HVLP gravity fed gun, 1.6-2.0mm
  - Ø Add 15% reducer
  - Ø 2 Bar (29 PSI)
  - Ø Distance from object 20cm (>0.5 foot)
  - Ø 1st coat even wet coat, second coat reduce pressure and material flow to achieve a fine mist
- 4. Standard texture through HVLP gravity fed gun, 1.6-2.0mm
  - Ø Add 15% reducer
  - Ø 2 Bar (29 PSI)
  - Ø Distance from object 20cm (>0.5 foot)

Ø 1st and second coats applied as even wet coats

The above recommendations are based on our experience with RAPTOR and represent only a few examples of the types of textures that can be acehived. It is recommended that a trial application is made to fine tune the finish before applying onto the finished object.











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#### **Rolling RAPTOR**

- 1. Pour mixed RAPTOR into a suitable paint tray.
- 2. Cut in all corners and hard to reach areas with a brush.
- 3. Apply using an open textured roller.
- 4. Load roller with the product and apply slowly using medium pressure.
- Rolling on RAPTOR results in a lower build. Additional coats will be necessary. When applying additional coats, observe 60 minute flash off period between coats.

Do not use in extreme cold or hot temperatures.

Ideal application temperature is 20°C (68°F) with humidity of less than 60%.



#### Coats

Build / microns

As applied using SCHUTZ Gun

U-POL recommends applying 2 medium coats of RAPTOR.

1 Coat: 230μ (9.0 Mils) 2 Coats: 475μ (18.7 Mils)

All measurements are approximate and are dependent on the application method. See document "Indicative Consumption" for a variety of applications available from www.u-pol.com.



#### Flash-off / min @ 20°C (68°F)

Between coats

60 minutes

IMPORTANT! Do not place heavy loads on the surface until RAPTOR is fully cured. Please see dry times below.



#### **Drying Times**

Touch Dry @ 20°C (68°F) Less than 1 hour

Through Dry @ 20°C (68°F) 5-7 days

Reducing flash off time, excessive film build and/or reduced temperatures will alter drying time. Do not allow RAPTOR to come in contact with water for at least 72-hrs.

Higher temperatures will result in shorter flash time and colder temperatures will require a longer flash time. Higher film builds will extend the final cure time.

**Baking** 

RAPTOR can be baked for 30 minutes @ 60°C (140°F). Baking will speed up the initial cure, but it is still recommended waiting 7 days for

regular use.

I.R. curing is not recommended.



#### **Over Painting**

RAPTOR can be overpainted with most modern paint systems. When overpainting, prep the surface as follows:

- 1. Let sprayed RAPTOR dry for 24 hours.
- 2. Abrade with a fine abrasive pad.
- 3. Clean and degrease.

Adding RAPTOR Traction See RAPTOR TRACTION SOP.

Anti-Slip Granules





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#### **PROPERTIES**

Data

Flash point -18°C (-0.4°F) Solid content Approx. 57 %

Specific gravity Approx. 1120g/I (9.18lb/gal US)

Chemical Resistance Diesel: No effect

> Petrol: Resistant to splashes Bleach: No effect Xylene: Resistant to splashes Alcohol: No effect Hydraulic Oil: No effect Urine: No effect

NaOH: No effect

For further information see document entitled "ASTM D1308" available on www.u-pol.com for resistance to

household chemicals.

Dielectric breakdown 4.8 kV/mm (122 V/Mil) ASTM D 149

Temperature Resistance -18°C to 100°C (-0.4°F to 212°F)

STORAGE & VOC INFORMATION

**Shelf Life** 

Storage

**Equipment Cleaning** 

2 years from date of manufacture in sealed original containers.

RAPTOR should be stored in cool, dry conditions in the original containers.

Clean spray gun in-between mixes. All equipment should be thoroughly washed

with acetone immediately after use.

NOC Information

The EU limit for this product (product category: IIB(e) in ready to use form is

840a/litre.

The VOC content of this product in ready to use form is 486g/litre.

**US VOC Information** 

UP0820 RAPTOR Black 4L Kit

As Received Regulatory: 315g/l (2.6 lbs/gal)

> 239g/l (2.0 lbs/gal) Actual:

As Applied 403g/l (3.4 lbs/gal) Regulatory:

> Actual: 330g/I (2.8 lbs/gal)

UP0820V 2.6 VOC RAPTOR Black 4L Kit

As Received Regulatory: 315g/l (2.6 lbs/gal)

> Actual: 239g/I (2.0 lbs/gal)

As Applied Regulatory: 303g/l (2.5 lbs/gal)

> Actual: 209g/l (1.7 lbs/gal)

UP0825 1.7 VOC RAPTOR Black 4L Kit

As Received Regulatory: 232g/l (1.9 lbs/gal)

> Actual: 136g/I (1.1 lbs/gal)

As Applied Regulatory: 200g/I (1.7 lbs/gal)

> Actual: 108g/I (0.9 lbs/gal)





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Order Code	UP Number	Description	
RLB/1	UP0822	RAPTOR Black 750ml	
RLB/S4	UP0820	RAPTOR Black 4L Kit	
OWNRLBV/200	OWNRLBV/200	RAPTOR Black 200L Drum	
RLB/SV4	UP0820V	RAPTOR Black 2.6 VOC 4L Kit	
RLB/S17-4	UP0825	RAPTOR Black 1.7 VOC 4L Kit	
RLH/1	UP0826	RAPTOR Hardener 1L	
RLHV/1	UP0827	RAPTOR Hardener 2.6 VOC 1L	
RLH17/1	UP0828	RAPTOR Hardener 1.7 VOC 1L	
GUN/1	UP0726	Schutz Gun	
ACID/AL	UP0741	ACID#8 Etch Primer 450ml Aerosol	
ACID/1	UP0776	ACID#8 Etch Primer 1L	
GRIP/AL	UP0799	GRIP#4 450ml Aerosol	
S2003/1	UP2031	System 2003 Plastic Primer 1L	
S2003/AL	UP2032	System 2003 Plastic Primer 450ml Aerosol	
RLTR/SM	UP4800	RAPTOR TRACTION 200g Sachet	

#### IMPORTANT: FOR PROFESSIONAL USE ONLY. Read full instructions before use.

This product contains hazardous materials and therefore appropriate personal protective equipment should always be used. Please refer to the label and consult the material safety data sheet for full handling instructions and personal protection information. U-POL disclaims any liability where the user does not wear the recommended personal protective equipment. The above data is for information only and may change without prior notice. It is the Buyers responsibility to ensure the suitability of the products for their own use and check the up-to-datedness of this information. The recommendation of use of our products and application are based on our knowledge and experience. Please refer to the label and consult the material safety data sheet for full handling instructions and personal protection information. These are available via your local stockist or via the U-POL website at WWW.U-POL.COM. U-POL is not responsible for the results obtained by others over whose methods we have no control and thereof U-POL is not liable for consequential or incidental damages including loss of profits.

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