





DRIVING SURFACE PERFECTION"

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# **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 ASTM E303-93.



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## TOUGH PROTECTIVE COATING

		SUBSTRATES AND PRI	EPAR	ATION		
Substrates	•	Original Paint	•	Polyester Fillers	•	SMC
	•	Aluminium*	•	Rigid Plastic*	•	E-coat*
	•	Bare Metal*	•	Fiberglass	•	Concrete*
	•	Galvanized*	•	GRP	•	Wood*
	*	Some substrates require RAPTOR. See Substrate				
Substrate Preparation	To a	chieve best results with F	RAPTO	OR, good preparation	is e	ssential.
$\sim$	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, Localized rub-thrus: prin ACID#8. Large exposed areas of adhesion and corrosion	he wit	n an etch primer, suc metal: Full 2K primer		two coats of U-POL em required for optimum
	*	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.				
	*	Concrete: for best result proprietary concrete sea	'			e dust. Seal first with
	*	OEM E-Coat: scuff the s degrease.	surface	e with an coarse abra	sive	pad then clean and
	5.	For hard to reach areas adhesion promoter for o			с. cc	at first with a suitable



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### TOUGH PROTECTIVE COATING

MIXING			
Mixing Ratio As simple as FILL - SHAKE - SHOOT <sup>®</sup>	Fill Shake	Shoot Shoot	
	SCHUTZ Gun	HVLP Gravity Gun	
RAPTOR : Hardener	3:1	3:1	
U-POL SYSTEM 20 Fast Thinners	Ready to use, no thinner needed	Up to 15-20% maximum to reduce the texture. About 25% more coverage* *Addition of thinner/reducer will affect the	

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.



Storage Temperature

12 months in unopened containers. Lids must be replaced after every use.  $+5^{\circ}C (41^{0}F) - +25^{\circ}C (77^{0}F)$ 

product VOC



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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.

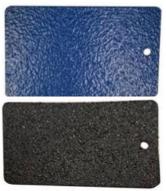
### How to achieve common textures with a U-POL Schutz Gun;

- 1. Standard texture through Schutz Gun:
  - Ø 4 Bar (60 PSI)
  - Ø Distance from object 50cm (18")
  - Ø 2 coats with an even sweeping motion
- 2. Coarse texture through Schutz Gun:
  - Ø Mix RAPTOR and allow to stand for 10-minutes
  - Ø 3 Bar (45 PSI)
  - Ø Distance from object 50cm (18")
  - 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 (>8-10")
  - 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 (>8-10")
  - 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**

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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.
- 5. 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.

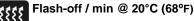
Do not use in extreme cold or hot temperatures.

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



Build / microns As applied using SCHUTZ Gun U-POL recommends applying 2 medium coats of RAPTOR.

1 Coat: 230 $\mu$  (9.0 Mils) 2 Coats: 475 $\mu$  (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.



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
Light Duty @ 20°C (68 <sup>0</sup> F)	2-3 days
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. Cure	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 .



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	PROPERTIES			
Data				
Flash point	-18°C (-0.4°F)	-18°C (-0.4°F)		
Solid content	Approx. 57 %			
Specific gravity	Approx. 1120g/l (9.18lb/gal US)			
Chemical Resistance	Diesel: No effect	NaOH: No effect		
	<ul> <li>Petrol: Resistant to splashes</li> </ul>	Bleach: No effect		
	<ul> <li>Xylene: Resistant to splashes</li> </ul>	Alcohol: No effect		
	Hydraulic Oil: No effect	Urine: No effect		
For further information see doo household chemicals.	cument entitled "ASTM D1308" available on w	/ww.u-pol.com for resistance to		
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	2 years from date of manufacture in se	ealed original containers.		
Storage	RAPTOR should be stored in cool, dry	conditions in the original containers.		
Equipment Cleaning	Clean spray gun in-between mixes. All with acetone immediately after use.	l equipment should be thoroughly washe		
VOC Information	The EU limit for this product (product category: IIB(e) in ready to use form is 840g/litre.			
	The VOC content of this product in rea	ady to use form is 486g/litre.		
	US VOC Information			



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	UP0820 RAPTOR Black 4L Kit		
As Received	Regulatory:	315g/l (2.6 lbs/gal)	
	Actual:	239g/l (2.0 lbs/gal)	
As Applied	Regulatory:	403g/l (3.4 lbs/gal)	
	Actual:	330g/l (2.8 lbs/gal)	
	UP0820V 2.6 VOC	RAPTOR Black 4L Kit	
As Received	Regulatory:	315g/l (2.6 lbs/gal)	
	Actual:	239g/l (2.0 lbs/gal)	
As Applied	Regulatory:	303g/l (2.5 lbs/gal)	
	Actual:	209g/l (1.7 lbs/gal)	
	UP0825 1.7 VOC R	APTOR Black 4L Kit	
As Received	Regulatory:	232g/l (1.9 lbs/gal)	
	Actual:	136g/l (1.1 lbs/gal)	
As Applied	Regulatory:	200g/l (1.7 lbs/gal)	
	Actual:	108g/l (0.9 lbs/gal)	

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	



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#### 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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