



3.5 HSP (High Solids Polyurethane) Low VOC

FOR PROFESSIONAL USE ONLY

Description

3.5 HSP (High Solids Polyurethane) is a single-stage topcoat designed for commercial and automotive refinishing. This product provides Superior UV durability as well as commercial grade chemical resistance. 3.5 HSP has excellent coverage and high gloss



3 3.5 HSP Mixed Color
1 3.5 Activator



Use U-Tech measuring stick
106



Spray gun set-up:
1.8–2.2 mm
HVLP max. 10 psi at air cap

Application pressure:
40-50 psi (3-4 bar)
o Check gun manufacturer specification



2-3 x 1 coat
Apply single coats



Between coats
10-15 minutes at 70°F (20°C)



Dry Times
Dust Free
Dry

70°F (20°C)

1 hour

15 hours

140°F (60°C)

N.A.

45 minutes



Use suitable respiratory protection

Akzo Nobel Car Refinishes recommends the use of a fresh air supply respirator. Dry sanding, grinding, abrading, flame cutting and/or welding of the dry paint film will produce hazardous dust and/or fumes. Wear suitable NIOSH / MSHA approved respirator to avoid inhalation. Avoid all contact with airborne particles.

Read complete TDS for detailed product information

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Product and additives

Product 3.5 HSP Mixed Color

Hardener 3.5 Activator

- Accelerators**
- 994 Super Accelerator: a very fast accelerator for spot and panel repairs.
 - 995 Blocked Accelerator: speeds cure and increases potlife. Designed for larger areas and warmer temperatures. Temperatures up to 90°F (32°C).
 - 996 Supercharger: speeds cure and increases potlife. Designed for larger areas and cooler temperatures. Temperatures from 60°F–75°F (16°C–24°C).

- Additives**
- U-Tech LV Flex Agent: An Additive to increase flexibility of 3.5 HSP for use on flexible parts.
 - T890 Flating Agent: A matting agent designed to reduce the gloss level of single stage topcoats down to eggshell or matte if desired.
 - U-Tech Blending Reducer: A special solvent to dissolve fade out areas of spot repairs.
 - 997 Enhancer: increases potlife and slows flash-off, allowing for better sprayability and overspray melt-in at high temperatures. Temperatures from 100°F (38°C) and above.

Basic raw materials

3.5 HSP: polyurethane resins.

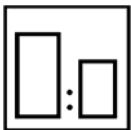
3.5 Activator: polyisocyanate resins

Suitable substrates

3.5 HSP can be directly applied on top of the following surfaces:

- All existing finishes degreased and sanded with #P400 to #P500 grit paper dry (DA) or #P500 to #P600 grit wet.
- Aluminum after it has been properly treated with M5700 Alodine®. Please refer to the M5700 Alodine® TDS.
- All U-Tech preparatory products.

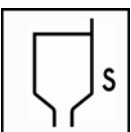
Mixing Ratio



3 parts by volume of 3.5 HSP mixed Color
1 parts by volume of 3.5 Activator

For easy and accurate mixing, use U-Tech measuring stick No. 106

Viscosity



22 seconds ZAHN cup #2 (19 seconds DIN #4) at 70°F (20°C).



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Spray gun set-up / application pressure



Pressure Feed
HVLP Siphon
HVLP Gravity

Fluid Tip
1.0–1.2 mm
1.8–2.2 mm
1.4–1.5 mm

Spraying Pressure
40–50 psi
max. 10 psi (air cap)
max. 10 psi (air cap)

Fluid Pressure
8–10 psi

Application process



Most solid colors can be sprayed in one coat followed by a cross coat. 3.5 HSP can also be applied in two to three single flowing coats after the stated flash-off time.

Metallics: Apply two (2) single flowing coats. After the stated flash-off time, apply the second coat. The coats of U-Tech 3.5 HSP should be applied with sufficient flow, but should not be applied too heavily or excessive mottling will occur.

If required, after a flash off time of 5-10 minutes, even out the metallic pattern with a final mist coat by holding the spray gun at a 45° angle to the panel. Adjust the material flow from the spray gun by means of trigger control. Do not make this coat too wet. Application affects the final color. A light mist coat lightens the color. A heavy or wet mist coat will make the color darker.

Integrated clearcoat: MS Clear can be integrated with the 3.5 HSP to add depth and durability. Spray 2 wet coats of U-Tech 3.5 HSP color. Activate reduce MS Clear (see MS Clear TDS). Then integrate RTS MS Clear and RTS 3.5 HSP color 1:1. Then apply a final wet coat. With metallic colors, 3.5 HSP can be clearcoated after 30 minutes at 140°F (60°C) or 12 hours at 70°F (20°C).

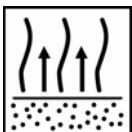
Pot-life

1.5 hours at 70°F (20°C)
with 2 oz per gal 994: 1 hour at 70°F (20°C)
with 2 oz per gal 995: 3 hours at 70°F (20°C)
with 2 oz per gal 996: 3½ hours at 70°F (20°C)
with 2 oz per gal 997: 4 hours at 70°F (20°C)

Film thickness

Per coat: .9 – 1.1 mils. (22 - 27 µm)
The total dry layer thickness: 1.8 – 2.2 mils. (45 - 55 µm)

Flash off



10 – 15 minutes between coats

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Drying times



| | 70°F (20°C) | 140°F (60°C) |
|-----------|----------------|-----------------|
| Dust Free | 1 hour | N.A. |
| Dry | 15 hours | 45 minutes |

| Metal Temp. | Drying | 994 Super Accelerator | 995 Blocked Accelerator | 996 Supercharger |
|--------------|-----------|--------------------------|----------------------------|---------------------|
| 70°F (20°C) | Dust Free | 30 minutes | 2 hours | 1 ½ hours |
| | Dry | 8 hours | 12 hours | 10 hours |
| 140°F (60°C) | Dry | 25 minutes | 35 minutes | 30 minutes |

NOTE: 995 and 996 are highly recommended

Polishing



Dust and minor damage can be polished out after the stated dry times listed in the table below. Preparation and Polishing: Recommended is a high quality polishing system such as that from 3M, Perfect-It 3000 system.

NOTE: When heavy color sanding and rubbing are required, all 3.5 HSP colors must be clearcoated. Apply 1 coat of U-Tech MS clearcoat. In case of recoat with clearcoat be aware to use comparable accelerator packages.

Recoatable with

Striping or lettering on 3.5 HSP topcoat must be applied within 24 hours for good adhesion. After 24 hours, scuff with gray scuffing pad.

Decals can be applied after 48 hours at 70°F (20°C)

Material usage

With recommended application, the theoretical material usage is ± 817 sq.ft./gal (m²/liter) per coat.

- *The practical material usage depends on many factors i.e. shape of the object, roughness of the surface, application techniques, pressure, method and application circumstances.*

Cleaning of equipment

Clean equipment with extra strong cleaning solvents or lacquer thinner

VOC

| | | |
|--------------------------------------|------------|-------------|
| 3.5 HSP System Single Stage: | 3.5 lb/gal | 420 g/liter |
| 3.5 HSP System Single Stage with 994 | 3.6 lb/gal | 433 g/liter |
| 3.5 HSP System Single Stage with 995 | 3.6 lb/gal | 434 g/liter |
| 3.5 HSP System Single Stage with 996 | 3.6 lb/gal | 434 g/liter |
| 3.5 HSP System Single Stage with 997 | 3.6 lb/gal | 434 g/liter |



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Product storage

Store products unopened, and used products with closed lids preferably between 60°F-95°F (10°C-35°C)
Avoid too much temperature fluctuation, optimal storage temperature approximately 70°F (20°C)

- o 3.5 HSP mixed color: 2 years
- o 3.5 Activator: 12 months

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IMPORTANT NOTE: The information in this data sheet is not intended to be exhaustive and is based on the present state of our knowledge and on current laws: any person using the product for any purpose other than that specifically recommended in the technical data sheet without first obtaining written confirmation from us as to the suitability of the product for the intended purpose does so at his own risk. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. Always read the Material Data Sheet and the Technical Data Sheet for this product if available. All advice we give or any statement made about the product by us (whether in this data sheet or otherwise) is correct to the best of our knowledge but we have no control over the quality or the condition of the substrate or the many factors affecting the use and application of the product. Therefore, unless we specifically agree in writing otherwise, we do not accept any liability whatsoever for the performance of the product or for any loss or damage arising out of the use of the product. All products supplied and technical advices given are subject to our standard terms and conditions of sale. You should request a copy of this document and review it carefully. The information contained in this data sheet is subject to modification from time to time in the light of experience and our policy of continuous development. It is the user's responsibility to verify that this data sheet is current prior to using the product.

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