

BLACK HYPER GLOSS BLACK

The Definition of Real Black

MAGNUS PRO BLACK PPF goes through a sophisticated pigmentation process combining the black pigments into the TPU's molecular structure to achieve a super glossy black aliphatic polyurethane film.

Hyper Gloss Black

The revolutionary colored Paint Protection Film offers the extreme clarity that eliminates orange peel texture that we often seen in Vinyl. In addition, the MAGNUS PRO BLACK PPF also features self- healing properties & super hydrophobic effect for easy maintenance.

LAYER 1 PROTECTIVE INTERLEAF

LAYER 2

UNIQUE NANOTECHNOLOGY COATING SYSTEM

- Sophisticated pigmentation process combining the black pigments into the TPU's molecular structure resulting hyper gloss black polyurethane.
- Self healing ability on scratches
- Anti graffiti features
- Visible Light Transmission (VLT) = 0%

$\begin{array}{l} K_{2}SiO_{3} + 2HCI = 2RCI + H_{2}SiO_{3} \downarrow \\ 2K^{+}+SiO_{3}^{2^{-}} + 2H^{+} + 2CI^{-} = 2K^{+} + 2CI^{-} + H_{2}SiO_{3} \downarrow \\ 2H^{+} + SiO_{3}^{2^{-}} = H_{2}SiO_{3} \downarrow \\ Ba(OH)_{2} + K_{2}CO_{3} = BaCO_{3} \downarrow + 2KOH \\ Ba^{2^{+}} + 2OH^{-} + 2K^{+} + CO_{3}^{2^{-}} = BaCO_{3} \downarrow + 2K^{+} + \end{array}$

LAYER 3

SPECIAL FORMULATED ADHESIVE

- Easy repositioning •
- Ease of installation Safe & secure •
 - sale & secure

LAYER 4

THERMA-POLYURETHANE PROTECTION FILM

- High level clarity
- Ultimate puncture defender
- Highly flexible & conformable

www.magnuspro.net

LAYER 5

POLYESTER LINER



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Me Product Sgs Test:

Magnus Pro BLACK Paint Protection Film are fully inspected & certifed by SGS to ensure best performance and quality in the market. Details of Sgs Lab Test report can be found at www.magnuspro.net.

| Property | Test Method | Result |
|-----------------------------------|-------------|--------------------|
| Total Thickness | Micro meter | 370±20 μm |
| Film Thickness | Micro meter | 200±17 μm |
| Visible Light Transmittance (VLT) | KS L 2016 | 0% |
| Peel Strength | ASTM D3330 | 2000±500 gf / inch |
| Elongation | ASTM D882 | 190±20 % |
| Gravelometer | ASTM D3170 | PASS |
| Outdoor Weathering (Q-UV) | ASTM G154 | Below 1% |
| Outdoor Weathering (Q-SUN) | ASTM G155 | Below 1% |

Warranty :

Once the film is installed, it will last permanently and is backed with a warranty up to 6 years.

$$\begin{split} & K_{2}SiO_{3} + 2 HCI = 2 KCI + H_{2}SiO_{3} \downarrow \\ & 2 K^{+} + SiO_{3}^{2^{-}} + 2 H^{+} + 2 CI^{-} = 2 K^{+} + 2 CI^{-} + H_{2}SiO_{3} \downarrow \\ & 2 H^{+} + SiO_{3}^{2^{-}} = H_{2}SiO_{3} \downarrow \\ & Ba(OH)_{2} + K_{2}CO_{3} = BaCO_{3} \downarrow + 2 KOH \\ & Ba^{2^{+}} + 2 OH^{-} + 2 K^{+} + CO_{3}^{2^{-}} = BaCO_{3} \downarrow + 2 K^{+} + \end{split}$$

