

Surface Textures of KYDEX® Thermoplastic Sheet

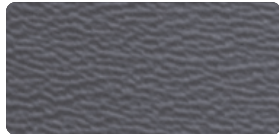
For information applicable to KYDEX® FST please refer to 300 series technical briefs.

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Introduction

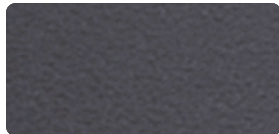
KYDEX, LLC offers eight different textures ranging from high-gloss smooth to leatherette. Each texture presents its own unique opportunities and challenges. Textures are embossed into the sheet during the extrusion process, so available embossings may be limited based on KYDEX® sheet grade, thickness, or width. Talk with your KYDEX® thermoplastic sheet representative for more details. The following is a summary of each texture.

Standard KYDEX® Sheet Textures



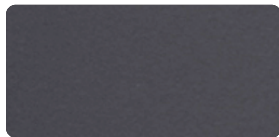
P-1 Haircell

- Best abrasion resistance
- Excellent for high abuse areas
- Can tend to have higher metamorphism in highly chromatic colours
- Common texture available for many years



P-3 Velour Matte

- Excellent abrasion resistance
- Easy to control gloss when formed
- Most widely specified texture for aircraft components
- Remains very “matte” if formed properly and most looks like a painted composite panel



P-8 Suede

- Good abrasion resistance but can show marring in light colours
- Excellent for textured female molding
- Great for flat laminations but can “gloss up” when vacuum formed



P-A Smooth

- Polished, high gloss appearance
- Prone to scratching
- Cannot be produced in low smoke formulations



P-C Level Haircell

- Leatherette appearance
- Good scratch resistance
- Common for high abuse areas
- Easy to control gloss level when thermoforming

KYDEX, LLC

ISO 9001 and 14001 Certified

Customer Service

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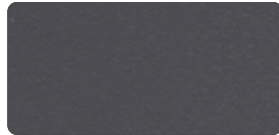
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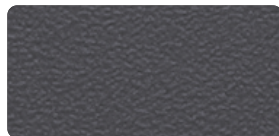
P-E Smooth Nap

- Similar characteristics to P-8 Suede texture
- Slightly more embossing compared to P-8 Suede texture



P-H Seville

- Leather/cowhide grain type texture
- Not recommended for deep draw parts due to texture stretch
- Often used against similarly grained leathers



P-K Cashmere

- High abrasion resistance
- Excellent for flat lamination or shallow draw components
- Not recommended for deep draw or tight radii due to glossing

Texture Characteristics

Cleaning

KYDEX® sheet has excellent chemical resistance and is easily cleaned with many common household cleaners such as fantastik® and Formula 409®. The texture of KYDEX® sheet plays a major role in the ease of cleaning. Shallow textured sheet can easily be cleaned with a soft cloth, while a heavier texture may require use of a scrub brush to remove material from texture valleys. For more information on cleaning of KYDEX® sheet, please refer to Technical Brief 114, Cleaning KYDEX® Thermoplastic Sheet, on our website at <http://www.kydex.com/briefs/114.pdf>, and Technical Brief 115, Cleaning and Maintaining KYDEX® 331/331d, at <http://www.kydex.com/briefs/115.pdf>.

Ease of Cleaning

Highest ←								→ Lowest							
P-A Smooth		P-8 Suede		P-K Cashmere		P-E Smooth Nap		P-3 Velour Matte		P-H Seville		P-C Level Haircell		P-1 Haircell	
Soft cloth minimum scrubbing				Soft cloth little scrubbing				Brush may be necessary to clean valleys							

Abrasion/Mar Resistance

KYDEX® sheet is commonly used in high abuse applications, where it is important that the appearance of the sheet is maintained throughout the life of the material. Many of the standard textures have been developed to offer high levels of abrasion and mar resistance, providing not only superior durability but also lasting appearance.

Abrasion/Mar Resistance

Highest ←								→ Lowest							
P-H Seville		P-1 Haircell		P-C Level Haircell		P-K Cashmere		P-E Smooth Nap		P-3 Velour Matte		P-8 Suede		P-A Smooth	

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Texture Characteristics

Tooling Marks

Texture rolls are produced through an engraving process that uses a machining tool to cut the texture into the face of a cylinder roll. This tool has a specific width, which machines multiple sections across the width of the cylinder roll. Points on the engraved cylinder where the tooling sections meet have a faint transition line. These lines leave a faint impression in the sheet surface and are more noticeable in darker coloured sheet. Textures that have tooling marks include P-1 Haircell, P-3 Velour Matte, P-8 Suede, P-C Level Haircell, P-E Smooth Nap, and P-H Seville. P-K Cashmere and P-A Smooth are non-directional patterns that do not show tooling marks from the engraving process.

Gloss Level

The gloss level of KYDEX® sheet is determined by the process rolls used to texture the sheet. Most texturing rolls produce a low gloss appearance, with the exception of P-A Smooth, which has a higher gloss due to its polished surface. If necessary, a higher gloss can be achieved by adjusting the process conditions of the texturing rolls in all textures except P-H Seville. The level of gloss achievable will be limited according to the process capabilities of each texturing roll. In addition, in achieving a higher gloss level, the texture of the sheet will be less defined and will have a washed out appearance.

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This information supersedes all previously published data.