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Semi-Conductive Black UHMW Film

Skived Black UHMW film/UHMW-PE Film/UPE Film

Semi-Conductive Black UHMW Film (ultra-high molecular weight polyethylene) is designed for general applications requiring release, non-stick properties, or enhanced robustness. These films offer superior abrasion resistance and durability under mechanical stress, along with self-lubricating characteristics similar to Skived PTFE Films. Their anti-stick surface and sound-deadening properties make them ideal for demanding applications.
Additionally, Skived UHMW-PE Films can be bonded without etching, using methods such as thermal activation or bonding agents. UHMW exhibits exceptional abrasion resistance, often surpassing that of steel. With broad chemical resistance and a low coefficient of friction, UHMW serves as a versatile engineering material suitable for severe duty applications.
Characterized by its slipperiness akin to PTFE, UHMW polymers possess a molecular weight average ten times greater than that of conventional high-density polyethylene resins, enhancing their performance in various applications.

Advantages

- **Semi-conductive**
  Semi-conductive carbon filler has been added to the UHMW films.
- **High Abrasion Resistance and Durability**
  Exceptional resistance to wear and tear, ensuring long-lasting performance.
- **Continuous Service Temperature**
  Capable of withstanding temperatures up to 90°C.
- **Self-Lubricating Properties**
  Similar to PTFE, providing reduced friction in applications.
- **Anti-Stick Surface**
  Designed to minimize adhesion, making it ideal for release applications.
- **Sound Deadening**
  Effective in reducing noise, enhancing user experience.
- **Bondable Without Etching**
  Can be easily bonded using thermal activation or bonding agents.

Specification

Our Semi-conductive black UHMW-PE films can be produced in widths up to 1500 mm and thicknesses from 25μm to 1,500μm. Additionally, we can accommodate special thicknesses, widths, or other specifications upon request.
Color: Semi-conductive Black

Application

Black UHMW film is widely used in automotive and industrial environments where durability, UV resistance, and noise reduction are critical. Typical applications include:

- Automotive window channels and guide rails, providing smooth, low-friction movement.
- Workstation surfaces and other high-contact areas, offering excellent wear resistance.
- Noise abatement in vehicles, reducing rattling and squeaks.
- Conveyor bed liners and chute liners, minimizing friction and extending equipment lifespan.
- Outdoor protection against UV exposure, ensuring long-term stability.
- High-wear surfaces across automotive, industrial, and material handling systems.

Semi-Conductive Black UHMW Film properties

		Black UHMW Film
General Properties	**Test Method**	
Specific Gravity	ASTM D792	0.96
Standard width mm(in)		Maximum 1500(60)
Thickness Available mm(mil)		0.025 to 1.5 (1 to 60)
Standard thickness mm(mil)		0.05(2), 0.08(3),0.13(5), 0.25(10), 0.5(20)
Color		Semi-conductive Black
Mechanical Properties		
Surface finish	DIN EN ISO 4288	$R_t \leq 10$ μm
Coefficient of friction		0.1
Tensile Strength MPa(psi)	ASTM D882	≥30(4350)
Elongation %	ASTM D882	≥180
Thermal Properties		
Continuous use temperature ℃(℉)	UL-746B	-200 ~ +80 (-328 ~ 176)
Melt Point ℃(℉)	ASTM D3418	130(266)
Surface Treatments Available		
Adhesive Bondable		Yes

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