

U04 - UHMW-PE

polyethylene of ultra high molecular weight

Mechanical, Physical and Thermal Properties

PROPERTIES	CONDITION	STANDARD	UNIT		UNIT	
Colour				nature		nature
density/specific gravity	23°C	DIN 53479	kg/m ³	930	g/cm ³	0,93
hardness	23°C/3 sek.	ISO 868	Shore D	61 ±3	Shore D	61 ±3
hardness	23°C/15 sek	ISO 868	Shore D	58 ±3	Shore D	58 ±3
ball indentation hardness	23°C	DIN 53456 H 135/30	MPa	≥ 36	psi	≥ 5200
tensile strength	23°C	ASTM D 4745-79	MPa	≥ 40	psi	≥ 5800
elongation at break	23°C	ASTM D 4745-79	%	≥ 50	%	≥ 50
izod impact strength	23°C	ISO 180 / 1A	kJ/m ²	≥ 130		
thermal conductivity		DIN 52612	W/(m*K)	0,41	W/(m*K)	0,41
coefficient of thermal expansion	25°C-200°C		K ⁻¹ * 10 ⁻⁵	15	K ⁻¹ * 10 ⁻⁵	15
coefficient of friction *	23°C		μ	0,25	μ	0,25
minimum service temperature			°C	-200	°F	-328
maximum service temperature			°C	80	°F	176
young's modulus	23°C	DIN 53457	MPa	680	psi	98000

* coefficient of friction dry dynamic Steel 16MnCr5 v=0,6m/s; p=0,05 MPa; t=5h

Chemical Properties

Excellent chemical properties

Good corrosion resistance; Good sliding and antiadhesive behaviour; High resistance to abrasive wear

Excellent izod impact strength / high resilience at shock and impact stress

Foodstuff applications: Generally recognized as safe for foodstuff applications