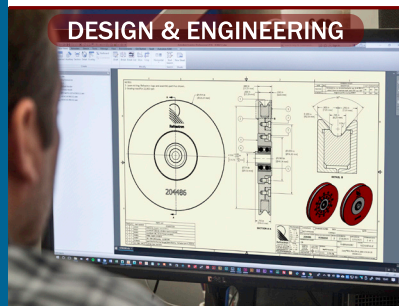




*Izory®* HD, Refractron's latest development in Zirconia

- ✓ Increased Strength and Hardness
- ✓ Improved Wear Resistance and Longer Life



# Izory® HD for Wire

Smart Ceramic Solutions for Wire Machinery

## MULTIWIRES



## STEP CONES



## ROD RINGS



## GUIDES & PULLEYS



## PROPERTIES

### MgPSZ

### Izory® HD

COLOR .....	Ivory
CHEMISTRY: $ZrO_2 + HfO_2 + MgO$ [%] .....	97/4
$ZrO_2 + HfO_2 + Y_2O_3$ [%] .....	
$Al_2O_3$ [%] .....	
Other [%] .....	2.86
DENSITY $[g/cm^3]$ ISO 18754 .....	5.78
WATER ABSORPTION ASTM-373 .....	nil
GRAIN SIZE $[\mu m]$ ASTM E-112 .....	20
FRACTURE TOUGHNESS $K_{IC}$ $[MPa\sqrt{m}]$ ASTM C-1421 .....	10
LOOP ABRASION $[mm^3]$ ASTM G174 (d) .....	0.100
MODULUS OF ELASTICITY MOE $[GPa]$ ASTM E1876-99 .....	214
MODULUS OF RUPTURE 4pt MOR $[MPa]$ ASTM C-1161 .....	650
HARDNESS VICKERS $[HV]$ ASTM C1327-08 .....	1225
POISSON RATIO ASTM E1876-99 .....	0.31
COMPRESSIVE STRENGTH $[MPa]$ ASTM C773 .....	1760
THERMAL CONDUCTIVITY RT $[W/m K]$ ASTM C408 .....	2.50
COEFFICIENT OF THERMAL EXP. $\times 10^{-6}/^{\circ}C$ $[25-1000^{\circ}C]$ ASTM C372 .....	10.2
MAXIMUM USE LIMIT $[^{\circ}C]$ ISO 18754 .....	500

Izory® HD (MgPSZ) was developed with an improved microstructure which translates into a 15% increase in hardness (HV1), a 30% increase in strength (MOR) and a 40% improvement in wear resistance. Since the hardness and the microstructure have a direct impact on wear resistance they are critical to the performance of wire machinery components that directly contact your wire and cable.

Refractron understands how critical Izory® HD parts are to wire quality so we verify the ceramic properties on every lot of in house made material and measure the surface finish and critical dimensions on every capstan. A unique laser mark is added to provide comprehensive traceability and ease inventory control in our factory and yours.

Refractron is a privately owned company that has been manufacturing ceramics in its 95K ft<sup>2</sup> factory near Rochester, New York since 1984. Contact us ([adamo@refractron.com](mailto:adamo@refractron.com)) if you have questions, or would like to set up an on site fit assessment with an engineer.