

BACT Metal-Dylyn® Diamond-Like Nanocomposite Coating

Category : Carbon , Diamond , Other Engineering Material , Ceramic/Metallic Coating

Material Notes:

Metal-doped Me/a-C:H/a-Si:O nanocomposite. The electrical characteristics of these coatings can be tailored by the addition of metal dopants. This creates an engineered surface for specialized applications requiring a combination of wear, low friction, and electrical conductivity. Typical applications include those requiring static discharge in addition to wear resistance, such as in wafer manufacturing. Applied using a PACVD (plasma-assisted physical vapor deposition) coating method. Diamond-like coatings are amorphous carbon-based coatings that exhibit high hardness and low coefficients of friction. Their unique composition and structure result in excellent wear resistance and non-stick characteristics. These coatings are thin, chemically inert, corrosion resistant, have minimal particulate contamination, tailorable electrical resistivities, and have a very low surface roughness. Information provided by Bekaert Advanced Coating Technologies (BACT).

Order this product through the following link:

http://www.lookpolymers.com/polymer_BACT-Metal-Dylyn-Diamond-Like-Nanocomposite-Coating.php

Physical Properties	Metric	English	Comments
Thickness	0.100 - 8.00 microns	0.00394 - 0.315 mil	Coating Thickness

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell C	68 - 76	68 - 76	
Coefficient of Friction	0.20 - 0.30	0.20 - 0.30	Dry vs. Steel
K (wear) Factor	10.0 - 100 x 10 ⁻⁸ mm ³ /N-M	4.96 - 49.6 x 10 ⁻¹⁰ in ³ - min/ft-lb-hr	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	500 °C	932 °F	

Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00100 - 1.00e+8 ohm-cm	0.00100 - 1.00e+8 ohm-cm	

Processing Properties	Metric	English	Comments
Processing Temperature	150 - 200 °C	302 - 392 °F	Coating Temperature

Descriptive Properties	Value	Comments
Microhardness	12 - 17 GPa	
Surface Energy	30 - 50 mN/m	

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