



DIAMOND  
COATINGS



## Diamond Coatings – DIA.HC-KR Hard-Coat

### INTRODUCTION

The DIA.HC-KR Hard-Coat is a protective coating for polycarbonate sheet, which offers optically clear abrasion and chemical resistance to the plastic its applied to.

This resistive coating protects the substrate from scratching and general wear and protects the cosmetic quality and appearance of the plastic. DIA.HC-KR boasts excellent product properties.

### Coating Capabilities

<b>Optical characteristics</b>				
Refractive index		ISO 489	N <sub>D</sub> 20	1.428 (1.585)
Transparency 380–780 nm D=3		DIN 5036	%	>86
Deviation angle	*	DIN 52305	Bg'	<5
Refractive power	*	DIN 52305	Dpt	<0.1
<b>Electrical characteristics</b>				
Specific volume resistivity	*	DIN VDE 0303	Ωcm	10 <sup>15</sup>
Dielectric strength	*	DIN EN 60243	kV/mm	>30
<b>Special characteristics</b>				
Behavior in fire	*	DIN 4102	Fire Classification	B2

#### DIAMOND COATINGS LTD.

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Typical Properties : Revision 06/04		Standard	Dimension	SC415
<b>General Properties</b>				
Bulk density	*	ISO 1183	g/cm <sup>3</sup>	1.2
Water absorption	*	ISO 62	mg/kg	<8
<b>Mechanical Characteristics</b>				
Tensile Strength	*	ISO 527	MPa	60
Elongation at tear	*	ISO 527	%	110
Modulus of elasticity	*	ISO 527	MPa	2200
Impact resistance	*	ISO 179	Kj/m <sup>2</sup>	Not broken
Extensibility of surface		DIN 53455	%	1.2
Abrasion resistance; 100 rotations; CS-10F; 500g		ISO 9352	% Haze	1.2 - 1.8
Thickness of coating			µm	4 - 8
Adhesion properties 0,5/1,0/2.0 hr boiling period at 100°C		ISO 2409		GT 0/0/0
Climatic resistance		ISO 4892	% Difference	0.1
Sand trickle test		DIN 52348	% Haze	4
<b>Thermal Characteristics</b>				
Vicat diluting temperature VST/B 50	*	ISO 306	°C	150
Constancy temperature HDT/A (1,8 N/mm <sup>2</sup> )*		ISO 75	°C	135
Temperature of permanent use	*	DIN 53446	°C	115
Linear coefficient of cubical thermal expansion 0 - 50 °C	*	DIN 53752	K <sup>-1</sup>	65 x 10 <sup>-6</sup>
Heat Conductibility (λ)	*	DIN 52612	W/mK	0.21
Specific heat (c)	*		J/gK	1.3

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