



Product Specification Sheet
TOPCOAT®-107
1-layer TOPCOAT®-107

Coating construction and composition (1-layer coating system)

High Corrosion Resistant	HP-HVOF	TOPCOAT®177/ Carbide-Ni/Cr	125µm – 600µm
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Key coating information

Description	International standard	Minimum value	Griekspoor Standard
Tensile Adhesive Strength	EN 582 or ISO 41916	$\geq 50 \text{ N/mm}^2$	$\geq 70 \text{ N/mm}^2$
Corrosion test	DNV-C2	No corrosion visible after 500h	>1000h
Corrosion resistance	Endurance test acc. NBD10300 DIN 50021-ESS ASTM G85	No permeability after 1000h (ECP-test >-350mV) No corrosion (10) after 1000h	>1000h (ECP-test >-200mV) >1000h
Porosity		<1%	<0,5%
Chemical resistance 1. NaCl (acid) 2. H2SO4 (acid) 3. HCL (acid) 4. NaOH (base)		1. Very good to excellent 2. Good 3. Good 4. Good	
Impact toughness test	DNV-M1 (0.3kpm)	No cracking in and outside the impact area, min. energy 0,3kpm (3J)	
Rockwell indication test	DNV-M2	No or negligible break-out or cracking	No break-out or cracking
Dynamic bending test 500 x / σ 300 N/mm ²	DNV-M3	No cracks after minimum of 10,000 bending cycles at 300N/mm ² Maximum bending stress approx. 500N/mm ²	
Micro hardness	HV0,3	---	Approx. 1000HV
Macro hardness	HR15N	---	>69
Operating temp.	---	-40°C < 500°C	-40°C < 500°C
Wear testing	ASTM G065B		not tested
Surface finish	NEN-EN ISO4287	Ra < 0.2µm Rz < 4.0µm Rpk < 0.1µm	Ra < 0.2µm Rz < 2.5µm Rpk < 0.1µm
Seal advice		1. Excellent sealing properties 2. Surface roughness and structure/texture can be adjusted on customers request for optimum seal lifetime. 3. Free choice of sealing constructions	
Possibility of integrated Linear Positioning Measuring (LPM-system)		Yes, over full capacity Length 23 meters, Diameter approx. 1 meter, Weight 20 tons.	
Elasticity			Very good

General information

This coating is a Griekspoor in house development of a nickel based superalloy blended with carbides. TOPCOAT®-107 is especially developed as a better and very economical 1:1 nickel/chromium replacement. Recommended coating thickness is 125µm. Maximum coating thickness approx. 600µm.

TOPCOAT®107 has a very good to excellent corrosion resistance. It combines hardness of the carbides with flexibility and tenaciousness/toughness of the superalloy. This combination results in excellent wear resistance against fretting, abrasion, and cavitation.

Typical applications:

Nickel/chromium replacement for hydraulic piston rods (marine environment). Especially long thin rods with a lot of flex can be coated reliably with only very little risk of cracking during use. Mandrels, very accurate rollers in the film and paper industry. Coating and/or repair of bearing and sliding surfaces.