



GRIEKSPoor
THERMAL COATINGS

Product Specification Sheet
TOPCOAT 107+
2-layer TOPCOAT 107+

Coating construction and composition (2-layer coating system)

Intermediate coating	HP-HVOF	TOPCOAT 177 (Ni-superalloy)	≥ 125µm (max. 3000µm)
Topcoat	HP-HVOF	TOPCOAT 177/ Carbide-Ni/Cr	≥ 125µm (typically 125µm, max. 600µm)

Key coating information

Description	International standard	Minimum value	Griekspoor Standard
Tensile Adhesive Strength	ISO 14916	≥ 50 N/mm ²	≥ 70 N/mm ²
Corrosion test	NOV/DNV-C2	No corrosion visible after 500h	>>1000h
	Endurance test acc. NBD10300	No permeability after 1000h (ECP-test > -350mV)	>>1000h (ECP-test > -150mV)
Corrosion resistance	ISO 9227 AASS ASTM G85	No corrosion after 1000h	>>1000h
Porosity		<1%	<0,5%
Chemical resistance 1. NaCl (acid) 2. H2SO4 (acid) 3. HCL (acid) 4. NaOH (base)		1. Excellent 2. Excellent 3. Very good 4. Excellent	
Impact toughness test	NOV/DNV-M1 (0.8kpm)	No cracking outside the impact area, min. energy 0.8kpm (8J)	No cracking outside the impact area, min. energy 0.8kpm (8J)
Rockwell indentation test	NOV/DNV-M2	No or negligible break-out or cracking	No break-out or cracking
Dynamic bending test 1000 x / σ 600 N/mm ²	NOV/DNV-M3	No cracks after a minimum of 500 bending cycles	No cracks after a minimum of 500 bending cycles
Micro hardness	HV0.3	950HV (NOV/DNV>600)	>1000-1400HV
Macro hardness	HR15N	>75	>90
Operating temp.	---	-40°C ≤ T ≤ 120°C	-40°C ≤ T ≤ 500°C
Wear testing	ASTM G065B		TBA
Surface finish	NEN-EN ISO4287	Ra < 0.25µm Rz < 4.0µm Rpk < 0.1µm	Ra < 0.25µm Rz < 2.5µm Rpk < 0.1µm
Seal advice		1. Excellent sealing properties. 2. Surface roughness and structure/texture can be adjusted for optimum seal life time. 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			Excellent

General information

The bond/intermediate coating is a Griekspoor developed nickel based superalloy, designed to withstand the most severe environments in (chemical) corrosion.

Also the top coating is a Griekspoor in house development consisting of above nickel based superalloy blended with special carbides. TOPCOAT 107+ is especially developed to withstand extreme environments. Recommended minimum coating thickness of 125µm. Maximum coating thickness approx. 600µm. (Total standard thickness of TOPCOAT 107+ is 250µm).

TOPCOAT 107+ has an 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:

Coating for hydraulic piston rods in a severe chemical- and/or marine environment. Also 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.