



UNPRECEDENTED HIGH-TECH LASER SURFACE  
TREATMENT FOR HIGH DEMANDING INDUSTRIES

TOPCLAD®  
topclad.com

2018 – REV6

### Application and Composition

Application	<ul style="list-style-type: none"> <li>• Components used in chemical corrosive environments</li> <li>• Components exposed to high mechanical stresses</li> <li>• Components exposed to both extremely low and extremely high temp.</li> <li>• Seawater applications, components exposed to acids and chlorides</li> <li>• Applications where hydrogen sulfide and elementary sulfur exist (up to 145 °C)</li> </ul>
Structure	<ul style="list-style-type: none"> <li>• Post-treated, reinforced Nickel Chromium matrix</li> </ul>
Layer thickness	<ul style="list-style-type: none"> <li>• 225 µm optimum</li> </ul>

### Technical Specifications

Bonding strength	∞ (Infinite; intermetallic bonding)
Micro hardness	≈ 450 HV
Max. operating temperature	950 °C
Surface roughness (Ra)	< 0,2 µm
Wear rate	Depending on application
Porosity	0%
Corrosion resistance	Class RA 10 - RP 10; ISO 10289 - 1000 hr
Dilution	< 1%
Heat Affected Zone (HAZ)	< 0,2 mm
According to	ISO 5817, DNV-C1 & C2, DNV-M1, M2 & M3

Advice	<ul style="list-style-type: none"> <li>• For applications in which an improved wear resistancy &amp; hardness is required</li> <li>• For applications in which extreme ductility and corrosion resistancy is required</li> <li>• Applications which require resistance to pitting, crevice corrosion &amp; intercrystalline corrosion.</li> <li>• Medium abrasive, general and offshore applications</li> </ul>
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Sealing <sup>1</sup> depending on type of oil & temperature	<ul style="list-style-type: none"> <li>• Turcon® M-12 or equivalent (PTFE; Mineral fibers and Additives filled / ≤ 260 °C)</li> <li>• Turcon® T-40 / T-29 or equivalent (PTFE; Carbon fibers / ≤ 260 °C) _ Turcon® MF4 for FDA approved appl.</li> <li>• Zurcon® Z-80 or equivalent (UHMWPE; Ultra High Molecular Weight Polyethylene / ≤ 80 °C _ FDA appr.</li> </ul>
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Guides <sup>1</sup>	<ul style="list-style-type: none"> <li>• Orkot® C380 or equivalent (Composite Polyester resin, polyester fabric; PTFE / ≤ 120 °C)</li> </ul>
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<sup>1</sup> The information regarding sealing is based on the technical advise of "Trelleborg Sealing Solutions". However, unknown parameters and conditions may restrict general statements during usage. It is vital that you satisfy yourself as to the suitability of individual products through adequate engineering/testing. For this reason, and due to the wide range of applications, Topclad BV can accept no liability as to the suitability or correctness of the recommendations in individual cases. For specific operating conditions please consult your sealing solutions technical representative.



Information provided in this document is intended only for general guidance and is the best information in our possession at the time. Topclad BV can accept no liability as to the suitability or correctness of the recommendations.