



Rockit 452

High-performance iron-based laser cladding powder for tough marine & industrial applications

Marine equipment in the atmospheric zone above the ocean faces extreme conditions, including high humidity, salt exposure, and sometimes bending stress. To ensure durability and minimize maintenance, these components require coatings with exceptional corrosion resistance, hardness, and wear protection.

The existing solution for such equipment (e.g., hydraulic cylinders in piling boats) is a multi-layer coating, which involves Laser Cladding (LC) of Ni- or Co-based alloys as the bond coat, Atmospheric Plasma Spraying (APS) of Cr_2O_3 or High Velocity Oxygen Fuel (HVOF) spraying of WC-CoCr as the topcoat, followed by sealing. While effective, this method is costly, complex, and prone to peeling and damage due to low ductility and insufficient bonding strength.

Rockit 452, an iron-based powder for LC, is a superior alternative. It creates a one-layer coating in a single process while offering strong corrosion and wear resistance. Compared to multi-layer coatings, it is more ductile because its elasticity modulus closely matches that of the substrate. Additionally, it boasts stronger bonding strength due to its fully metallurgical bond with the substrate.

For companies focused on sustainability, **Rockit 452** provides a leaner, more eco-friendly, and cost-effective solution without compromising performance.

Another common solution for marine equipment, such as capstans, is paint coating. However, this type of coating requires repairs every few weeks, consuming significant time and manpower. **Rockit 452** eliminates these drawbacks by providing dense, crack-free coatings with enhanced corrosion and wear resistance and higher bonding strength. This significantly reduces the frequency of repairs and lowers operating costs.

Industrial components, such as hydraulic cylinders in mining equipment, are also exposed to extreme conditions and require coatings with superior corrosion and wear resistance.

The current solution, Hard Chrome Plating (HCP), faces increasingly stringent environmental regulations due to its pollution and high energy consumption. It also requires annual inspections and repairs due to its limited corrosion and impact resistance.

Rockit 452 can also address these challenges. As an iron-based material, it is a greener alternative to chrome-based HCP, offering superior corrosion resistance, enhanced ductility, and greater impact resistance. Additionally, it eliminates pollution associated with chrome contamination and reduces energy consumption. Unlike HCP, it can be used not only for new components but also for refurbishing worn parts, further enhancing its sustainability benefits.

Main Product Features:

- » Excellent weldability
- » Strong corrosion resistance
- » Hardness level of 45~50HRC
- » Spherical powder morphology for the best flowability and process stability
- » Ultra-clean powder thanks to vacuum atomization, which prevents oxidation of reactive elements, eliminates non-metallic oxide inclusions, and removes dissolved gases

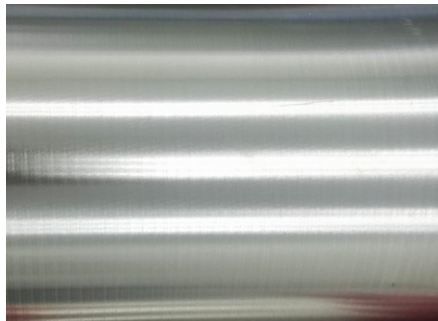
Typical Chemical Composition (wt%) of Rockit 452

| Fe | C | Cr | Ni | Mo | Mn | Si | Others |
|------|-----|------|-----|-----|-----|-----|--------|
| Bal. | 0.1 | 17.5 | 4.5 | 1.2 | 0.5 | 0.9 | <5 |

Strong Corrosion Resistance



NSS Test 5000+ hours Rp 10

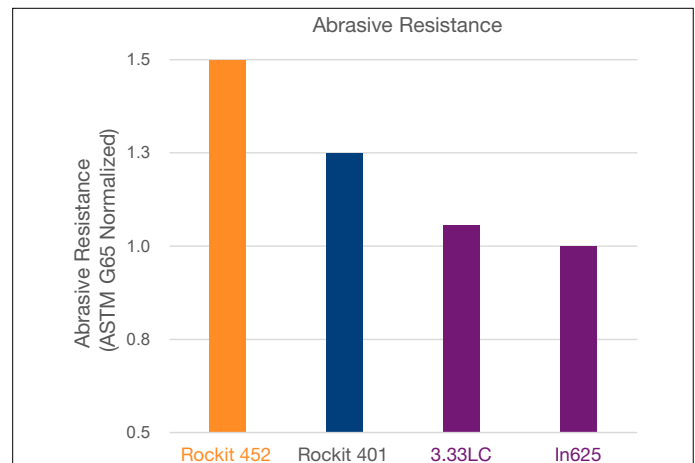
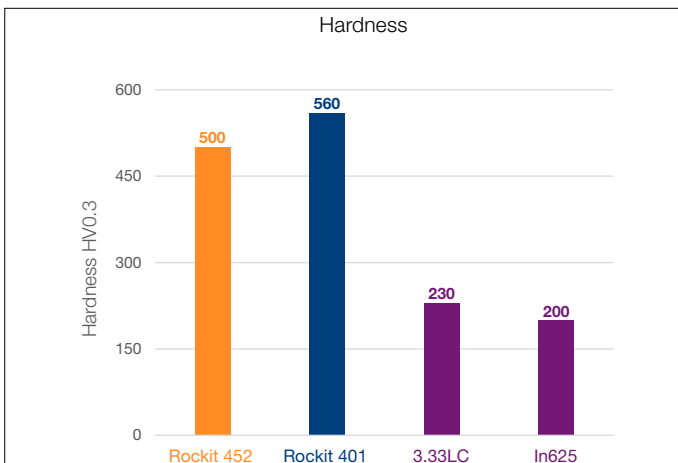


AASS Test 720+ hours Rp 10

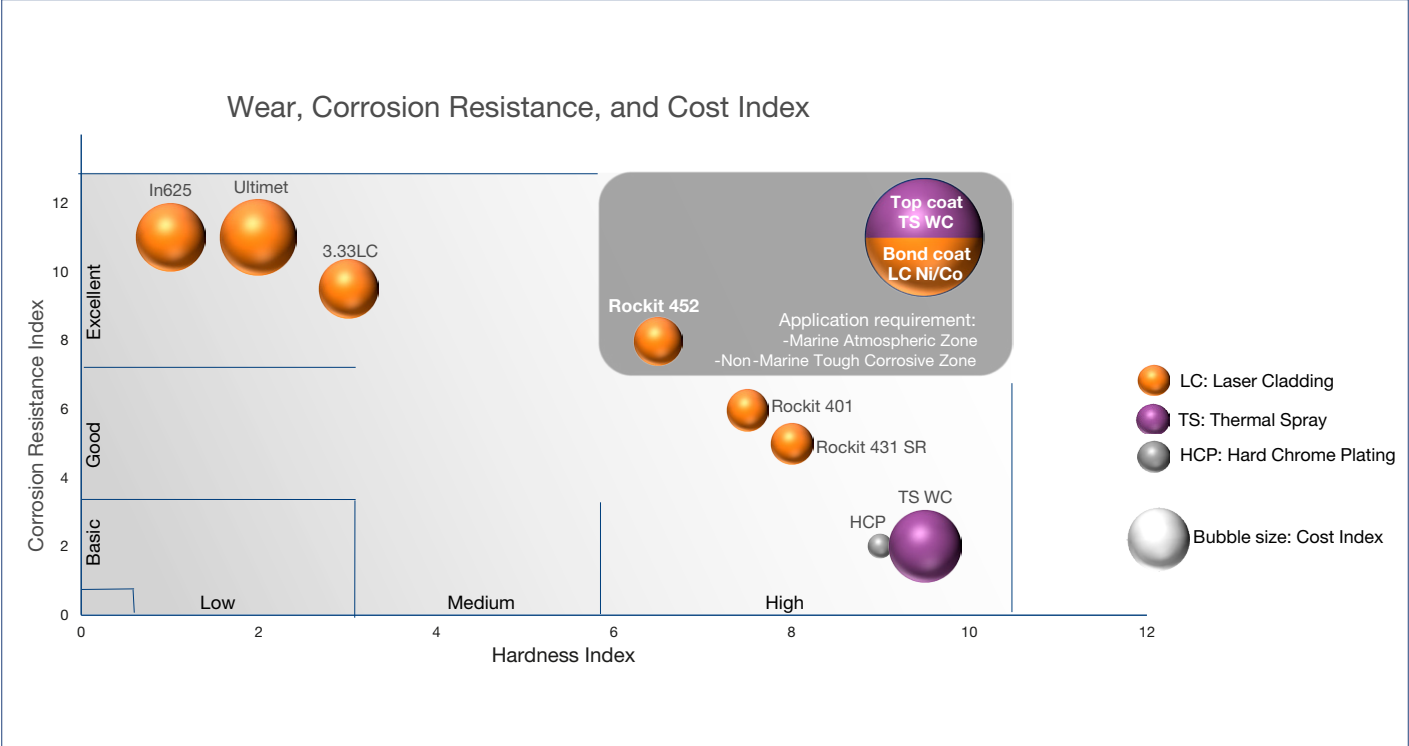


CASS Test 720+ hours Rp 10

High hardness and abrasive resistance



Cost-effective, high-performance solution



For more information on Rockit 452 and other Höganäs products, please contact your local sales representative or scan/click the QR code to fill out a contact form.



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