



## Rockit® 431SR

### Setting the new standard for coating of laminar cooling rollers with laser cladding

Laminar cooling is a crucial process step carried out after the hot-rolling of steel plates or strips. The conveying rollers are exposed to an environment with hot air, cooling water and steel plates at temperatures of 400-600°C, so the roller surfaces must be resistant to thermal fatigue, wear, and corrosion. The most common challenge for this application, when using flame spray technology, is the peel-off of coatings.

Our newly developed **Rockit 431SR** offers a solution. Applied with laser cladding, **Rockit 431SR** prevents peel-off thanks to the strong metallurgical bonding between coating and substrate. In addition, laser cladding solutions minimise the appearance of pinholes in the coating and help to improve the surface finish of the steel plate.

Using a single automated cladding step to apply the **Rockit 431SR** coating also increases the efficiency and offers a significant cost advantage when compared to traditional flame spray technologies where blasting,

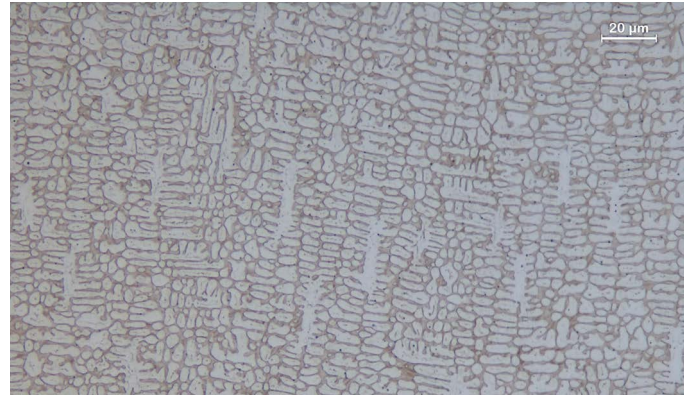
preheating, flame spraying, fusing, heat preservation are necessary. By reducing the number of production steps and minimising interruptions in the process, the quality and consistency of the coating is dramatically improved.

#### Advantages:

- Lean, automated, and environmentally friendly coating process with high coating quality and consistency
- Excellent cladding behavior with smooth deposit and good machinability
- Lower total cost solution compared to traditional flame spraying
- Longer coating service life (≥2 years, ≥8 million tons of steel output)



Acid salt spray test +300 hrs



Martensite and carbide/boride (etched in glyceric acid)

### Typical chemical analysis (%)

Fe	C	Cr	Ni	Others
Bal.	0.18	16.5	1.75	<5%

### Typical physical properties

Particle size	53-180 µm
Macro hardness	58 HRC

### Hot hardness (HV5)

Rockit® 431SR	RT	200°C	300°C	400°C	500°C
Coating hardness*	800	670	630	570	540

### Wear properties

Abrasive wear (ASTM G65-method E)/mm <sup>3</sup> *	45
JIS/mm <sup>3</sup> *	15

### Corrosion properties

Acid salt spray test ** ISO 9227 AASS	+300 hrs (Rp10)
--	-----------------

\* Samples are laser clad with Rockit 431SR on steel substrate (42CrMo) with coating thickness ~0.5 mm, dilution ~5%.

\*\* Rating according to ISO10289.

**For more information on Rockit and other Höganäs products, please contact your local sales representative.**