Rockit 607

CRM-free hardfacing alloy for extreme wear & impact applications

Industrial components in mining, agriculture, and oil & gas are exposed to severe wear and high impact loads. Metal matrix composite (MMC) systems such as NiCrBSi/WC are commonly used in these demanding applications. They offer strong wear performance, but are increasingly affected by cost volatility and supply constraints associated with critical raw materials (CRM).

Höganäs' **Rockit 607** is a CRM-free iron-based hardfacing alloy developed for demanding wear environments. It provides a cost-efficient alternative with improved material availability, helping bridge the performance gap between conventional Fe-based alloys and MMC systems, especially in highly demanding or thick-overlay applications where traditional iron-based materials often struggle.

Rockit 607 delivers wear resistance close to MMC blends, with improved robustness under impact loading. It forms a hard multi-phase microstructure with a martensitic matrix reinforced by vanadium- and molybdenum-rich hard phases, enabling hardness levels above 66 HRC and strong resistance to abrasive wear.

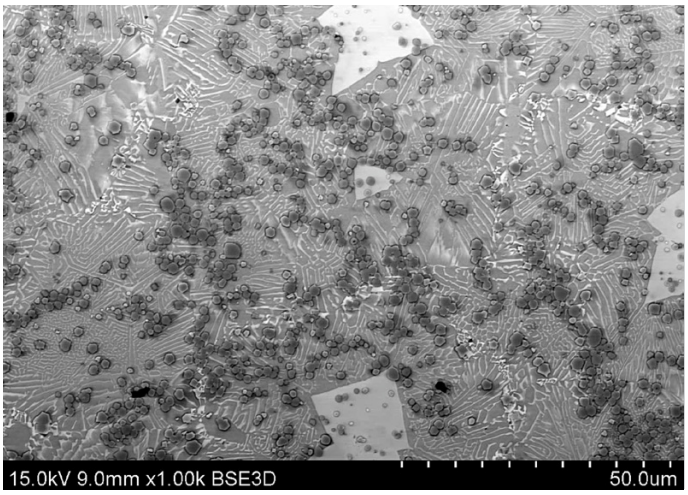
Rockit 607 offers excellent weldability and is suitable for Plasma Transferred Arc (PTA) and Laser Cladding (LC), including thick overlay applications. It enables stable deposition across a wide range of component geometries and operating conditions.

Typical applications include ground engagement tools (GET), drilling tools, shear bars, extruder screws, harvest blades, crushing hammers, and more.

Advantages:

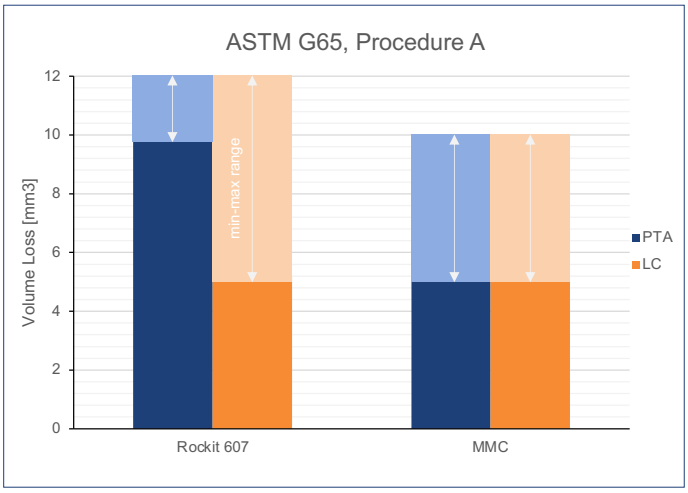
- **High hardness above 66 HRC**
- **Strong resistance to abrasive and impact wear**
- **Suitable for thick overlay applications**
- **Compatible with PTA and laser cladding processes**

Rockit 607 Properties



The microstructure is characterized by molybdenum-rich hard phases and finely dispersed vanadium-rich carbides in a martensitic matrix. This combination results in a high hard-phase fraction (~20 vol.% primary and up to 50 vol.% total) and hardness above 66 HRC, providing excellent resistance to abrasive wear.

Rockit 607 Wear Test

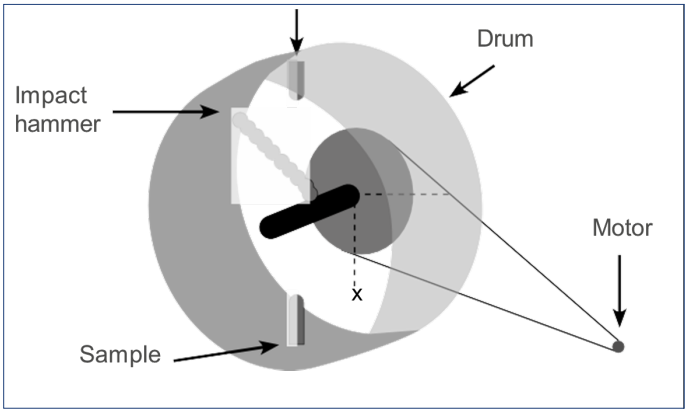


Test results are based on two-layer deposits applied to an EN 235 JR steel substrate, with typical dilution levels of ~5% (LC) and ~10% (PTA). Rockit 607 demonstrates wear resistance close to MMC systems. Typical ranges are indicated in the chart.

Typical chemical analysis (%)						
Fe	C	Mo	V	Cr	Ni	Others
Bal.	2.6	17.5	12	4	1.6	<4

Physical properties		
Deposition method	**Particle size**	**Typical coating hardness**
LC	150/53µm	>68 HRC
PTA	150/53µm	>66 HRC

Impact Wear Test - Rockit 607 (mass loss, g)	
Deposition method	**Particle size**
NiCrBSi + 60% WC/W2C (PTA)	1.6
NiCrBSi + 60% Spherical WC/W2C (PTA)	0.2
Rockit 607 (PTA / LC)	below 0.02



InnoTech Labs, Alberta Canada.
The impact wear test is conducted using a mechanical device that holds a sample while a ball-bearing-tipped hammer, attached to a rotating chain, repeatedly strikes the specimen. Each impact delivers a force of 6 to 10 joules. The test runs for 24 minutes, with mass loss measured at 4-minute interval.

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

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