

Technical Bulletin

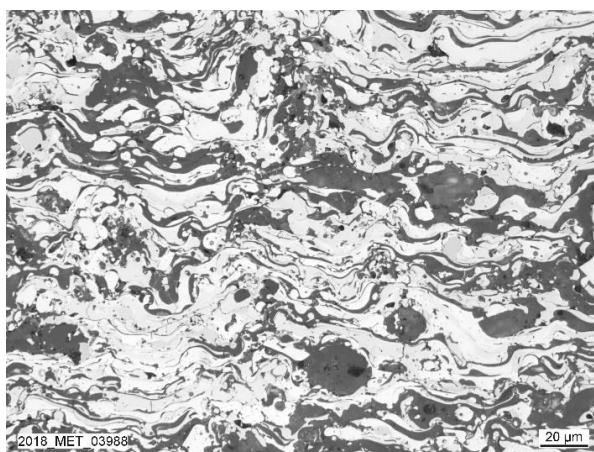
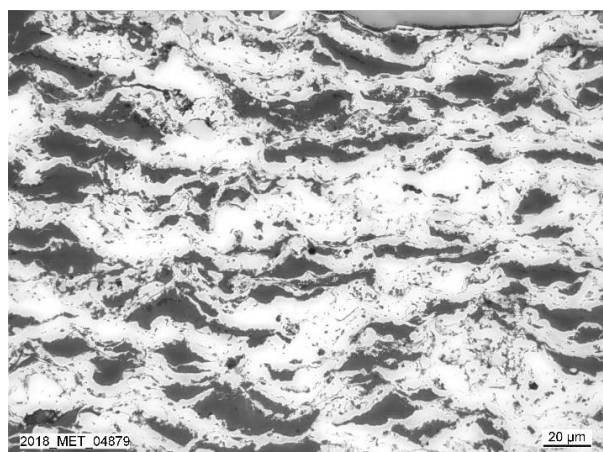
Engineered for
Ultimate Reliability

AMPERIT® 473.054 (45/10 µm)

CoNiCrAlY-CrC-CrB₂-Y₂O₃, blended

AMPERIT® 473 is a speciality product especially designed for hearth furnace rolls in steel industry, where steel sheet is tempered and pick up of MnO containing sheet scale must be prevented during annealing at highest temperatures. It contains Y₂O₃ which is more stable and has less reactivity against MnO containing oxides, compared to Al₂O₃. CrB₂ reduces the adhesion of blank metal sheet. The high amount of hard and ceramic phases increases hot hardness and reduces creep at high temperatures.

AMPERIT® 473.054 (45/10µm) can as well be sprayed with HVOF and plasma spray systems and does not require a detonation gun spray system to achieve dense coatings.



Coatings produced with kerosene HVOF (JP-5000®, left) and with plasma (F4, right).
For spray parameters and coating properties, see next pages

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Recommended Start Parameter for JP-5000[®]:

Kerosene (D60, gal/h / l/min)	6.0 / 22.7
Oxygen (scf/h / nlpm)	1800 / 792
Feed Rate (g/min)	25
Stand-off (mm)	350
Nozzle (inch)	8
Feed Gas (Ar, l/min)	8.5
Surface Speed (m/min)	30

Typical properties of HVOF coatings achieved with above recommended starting parameter with JP-5000[®]:

Deposition Efficiency (%):	25
Hardness (HV0.3):	580
Porosity (%):	0.4
Coating Density (g/cm ³)	6.4

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Recommended Start Parameter for F4:

Electrical Current / Power (A / kW)	550 / 42
Argon / Hydrogen (nl/min)	59 / 9
Feed Rate (g/min)	40
Stand-off (mm)	130
Nozzle (mm)	6
Feed Gas (Ar, l/min)	2.6
Surface Speed (m/min)	30 - 75
Injector	1.5mm / 6/6 mm / 90°

Typical properties of plasma coatings achieved with above recommended starting parameter with F4:

Deposition Efficiency (%):	45
Hardness (HV0.3):	550
Porosity (%):	1.3

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Please contact your local Sales office for further information

For technical questions please contact: amperit.technicalsupport@hcstarck.com

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* Hazards identification in Advertising (Directive 67/548/EEG Article 26, Directive 1999/45/EC Article 13and REGULATION (EC) No. 1272/2008 Article 48):

Carcinogenic Category 3; Sensitising; Toxic; Dangerous for the environment

Carcinogenicity Category 2; Skin sensitisation Category 1; Specific target organ toxicity - repeated exposure Category 1; Chronic aquatic toxicity Category 3

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