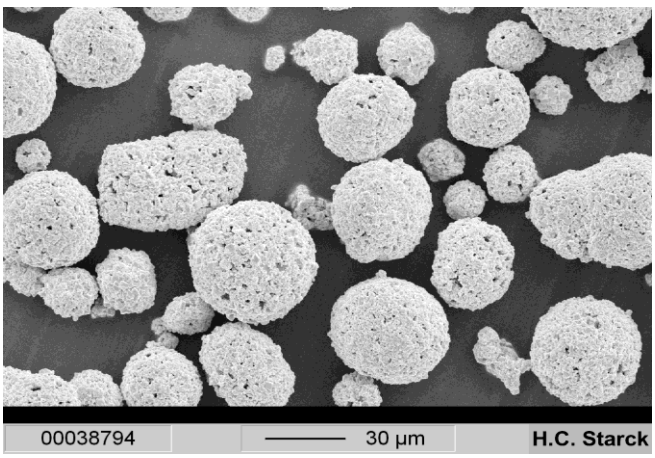
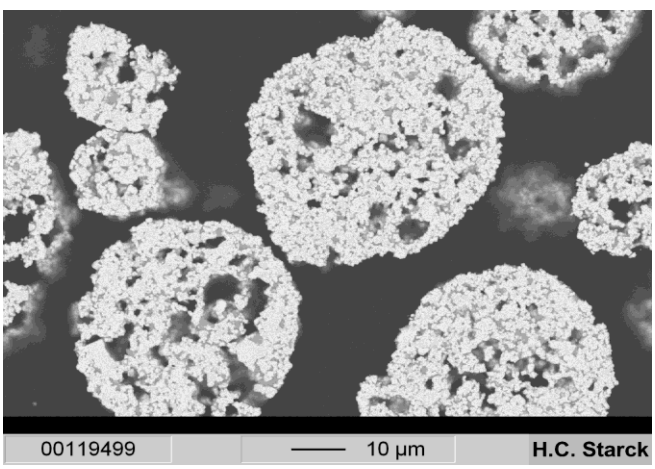
Technical Bulletin

AMPERIT® 547

WC-Ni 88/12, agglomerated and sintered

***AMPERIT*® 547** is a versatile, high quality powder with an extremely homogeneous distribution of the fine WC particles in the Ni matrix.





Powder Characteristics		
Chemistry (mass fraction in %)		
Carbon (C)	5.4 - 5.8	%
Nickel (Ni)	11 - 13	%
Iron (Fe)	Max 0.2	%
Tungsten (W)	Balance	%
Particle Sizes		
***AMPERIT*® 547.059**	30/5	µm
***AMPERIT*® 547.074**	45/15	µm
***AMPERIT*® 547.088**	53/20	µm
***AMPERIT*® 547.002**	90/45	µm

The values and characteristics in this Product Bulletin are typical values only and do not constitute a specification.
For the latest valid specification refer to the product data sheet.

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Physical Characteristics
Partical size distribution (by Laser light diffraction per ASTM C 1070)

Particle Size Distribution[1)]	547.059 **30/ 5 µm**	547.074 **45/15 µm**	547.088 **53/20 µm**
-125 µm - 88 µm - 62 µm - 44 µm	 100% min.99%	 100%	100%
D 90% D 50% D 10%	25 - 33 µm 15 - 21 µm 9 - 13 µm	52 - 62 µm 30 - 38 µm 18 - 23 µm	60 - 70 µm 35 - 43 µm 21 - 25 µm
Apparent Density	4.7 - 5.6[4)] g/cm^3	4.7 - 5.6[3)] g/cm^3	4.7 - 5.6[3)] g/cm^3

Particle Size Distribution[2)]	547.002 **90/45 µm**
+ 106 µm + 90 µm - 45 µm - 38 µm	max. 1% max. 5% max. 10% max. 5%
Apparent Density[3)]	4.7 - 5.6 g/cm3

1) MICROTRAC by Laser Light Diffraction per ASTM C 1070, 2) ROTAP Screening per ASTM B 214,
3) HALL FLOWMETER FUNNEL per ASTM B 212, 4) CARNEY FUNNEL per ASTM B 417

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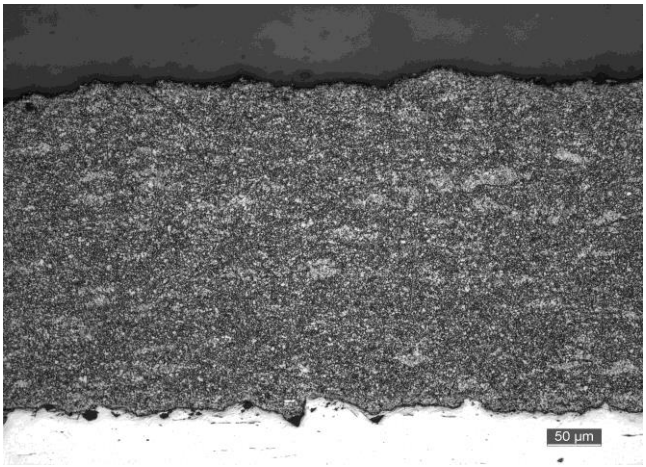
Coating Properties

Exactly like most WC based powders coatings produced from ***AMPERIT*® 547** are highly resistant to abrasion, erosion and sliding wear.

***AMPERIT*® 547** should be considered if greater ductility than WC-Co coatings is required.



Typical Properties of HVOF Coatings:

Microhardness:	1100 – 1350 HV 0.3
Roughness Ra:	2.0 – 6.0 µm (as sprayed)
Porosity:	less than 2 %
Bond strength:	> 75 MPa
Deposition efficiency:	50 – 70 %

Maximum operating temperature: 500 ° C in air

Spray parameters are available for the most commonly used guns on request.
Please contact our technical support or your local sales office for further information.

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Please contact your local sales office for further information

Contacts & Sales Offices

Europe	North America	Asia
H.C. Starck GmbH Im Schleeke 78-91 38642 Goslar Germany	H.C. Starck North American Trading LLC 45 Industrial Place Newton, MA 02461 – 1951 USA	H.C. Starck Ltd. 1-30-5 Hamamatsucho Minato-ku, Tokyo 105-0013 Japan
Sales Daniela Schwarz T: +49 5321 751 3753 daniela.schwarz@hcstarck.com	Sales Ana Duminie T: +1 617 407 9960 ana.duminie@hcstarck.com	Sales Hajime Nakadate T: +81 3 5776 5024 hajime.nakadate@hcstarck.com

Application Engineering
Benno Gries
T: +49 5321 751 3170
amperit.technicalsupport@hcstarck.com

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