

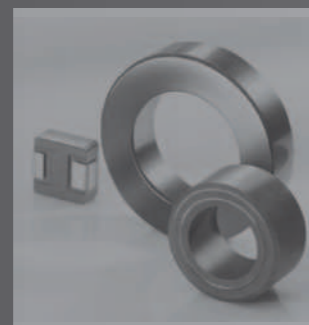
# Carbonyl Iron Powder for Diamond Tools



 **BASF**

The Chemical Company

Inductive Electronic Components



Diamond Tools



Metal Injection Molding and Powder Metallurgy



Microwave and Radar Absorption



## ADVANTAGES OF CIP BY BASF BASF'S CIP GRADES

Carbonyl Iron Powder (CIP) based bonds provide enhanced economic and ecological performance over cobalt binders. The exceptional fineness and homogeneity of BASF's CIP grades ensure outstanding compactibility, resulting in higher density and green strength. Furthermore, due to its high sinter activity CIP made by BASF allows for lowering of sinter temperatures and shortening of sintering cycles, thereby reducing exposure of the diamond during the production. BASF's CIP grades are purified in a distillation process leading to higher quality diamonds in a synthetic diamond production.

Our CIP CN soft grade is the allrounder among BASF's CIP grades for Diamond Tools. It is used by most customers for its excellent compactibility and sintering properties. CIP CN provides high density and bond hardness and is suitable for cold and hot pressing. CIP EN offers an alternative to CIP CN. As a hard grade it can be used to reduce ductility of the metal bond. CIP SM, an even finer grade, is optimal for use in segment backings for laser welding.

Our ultrafine H grades are used for highest density and bond quality. Iron Phosphide increases hardness, cutting speed and diamond grip and is therefore a suitable replacement for cobalt. It is available with 10 % phosphorous content (FeP10 %).

### Our CIP grades for high-quality Diamond Tools

Thanks to their outstanding fineness and homogeneity, our well-known high-quality CIP grades contribute to superior tool. BASF's excellent batch-to-batch consistency helps our customers to efficiently run their production processes.

#### Typical Properties

Grade	Fe min. (%)	C max. (%)	N max. (%)	O max. (%)	d10 (mic.)	d50 (mic.)	d90 (mic.)
CEP CN	99.5	0.03	0.01	0.10–0.25	3.0–4.0	6.5–8.0	14–27
CEP EN	97.5	0.9	1	0.6		3.9–5.2	
CEP FEP10%	87	0.4–0.8	0.2	1.2	3	6	18
CEP SM	99	0.1	0.1	0.55	2.1	3.5	5.5
CEP HF	97.8	0.6–0.9	0.6–0.9	0.3–0.5	1	2	3
CEP HQ	97.5	1	1	0.5		1.8–2.3	
CEP HS	99	0.1	0.1	0.55	2.1	3.5	5.5



Please contact us to discuss the requirements of your CIP application.

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**Note**

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