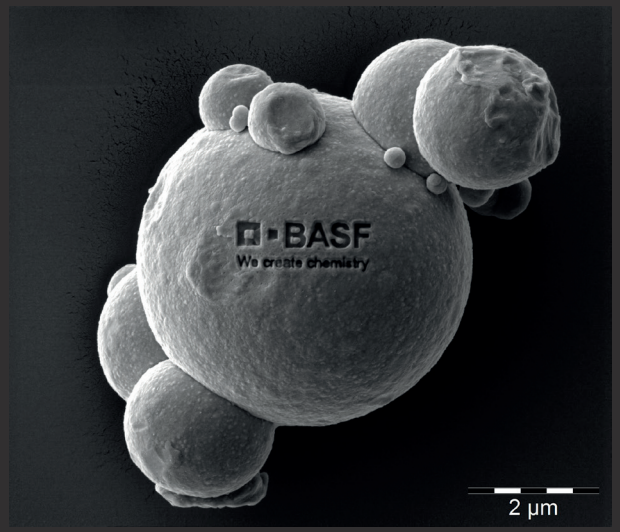


# CARBONYL IRON POWDER

## for Diamond Tools

BASF
We create chemistry

Inductive Electronic Components

Metal Injection Molding and Powder Metallurgy

Diamond Tools

Microwave and Radar Absorption

## ADVANTAGES OF CIP BY BASF

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.

## BASF'S CIP GRADES

Our CIP CN mechanically 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. These valued properties are also offered by our new CIP CD grade. With CIP CD even higher densities and bond qualities might be achieved due to its smaller particle size. CIP OM offers an alternative to CIP CD and CN. As a mechanically hard grade it can be used to reduce ductility of the metal bond. CIP SM, one of our finest soft grades, is optimal for use in segment backings for laser welding.



## TYPICAL PROPERTIES

| Grade | Characteristic | Fe (%) | C (%) | N (%) | O (%) | D10 (mic.) | D50 (mic.) | D90 (mic.) |
|---|---|---|---|---|---|---|---|---|
| CIP CD | Soft | min. 99.5 | max. 0.05 | | max. 0.25 | 2.0 – 3.3 | 4.2 – 6.3 | 7.5 – 12.0 |
| CIP CN | Soft | min. 99.5 | max. 0.03 | max. 0.01 | 0.10 – 0.25 | 3.0 – 4.0 | 6.5 – 8.0 | 14 – 27 |
| CIP OM | Hard | min. 97.8 | 0.75 – 0.90 | 0.65 – 0.90 | 0.15 – 0.40 | 1.7 – 2.7 | 3.9 – 5.2 | 7.2 – 9.2 |
| CIP SM | Soft | min. 99.0 | max. 0.1 | max. 0.1 | max. 0.55 | max. 2.1 | max. 3.5 | max. 5.5 |
| CS | Soft | min. 99,5 | max. 0,03 | max. 0,01 | 0,12 - 0,30 | 2,8 - 3,5 | 6,0 - 7,0 | 11 - 24 |
| CM | Soft | min. 99,5 | max. 0,03 | max. 0,01 | 0,10 - 0,25 | 3,4 - 4,2 | 7,0 - 9,5 | 17 - 33 |
| CF* | Soft | min. 99,5 | max. 0,03 | max. 0,01 | max. 0,23 | max. 4,1 | max. 9,5 | max. 26 |

* High purity, suitable for food/nutrition relevant applications

## 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 tools. BASF's excellent batch-to-batch consistency helps our customers to efficiently run their production processes.

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


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