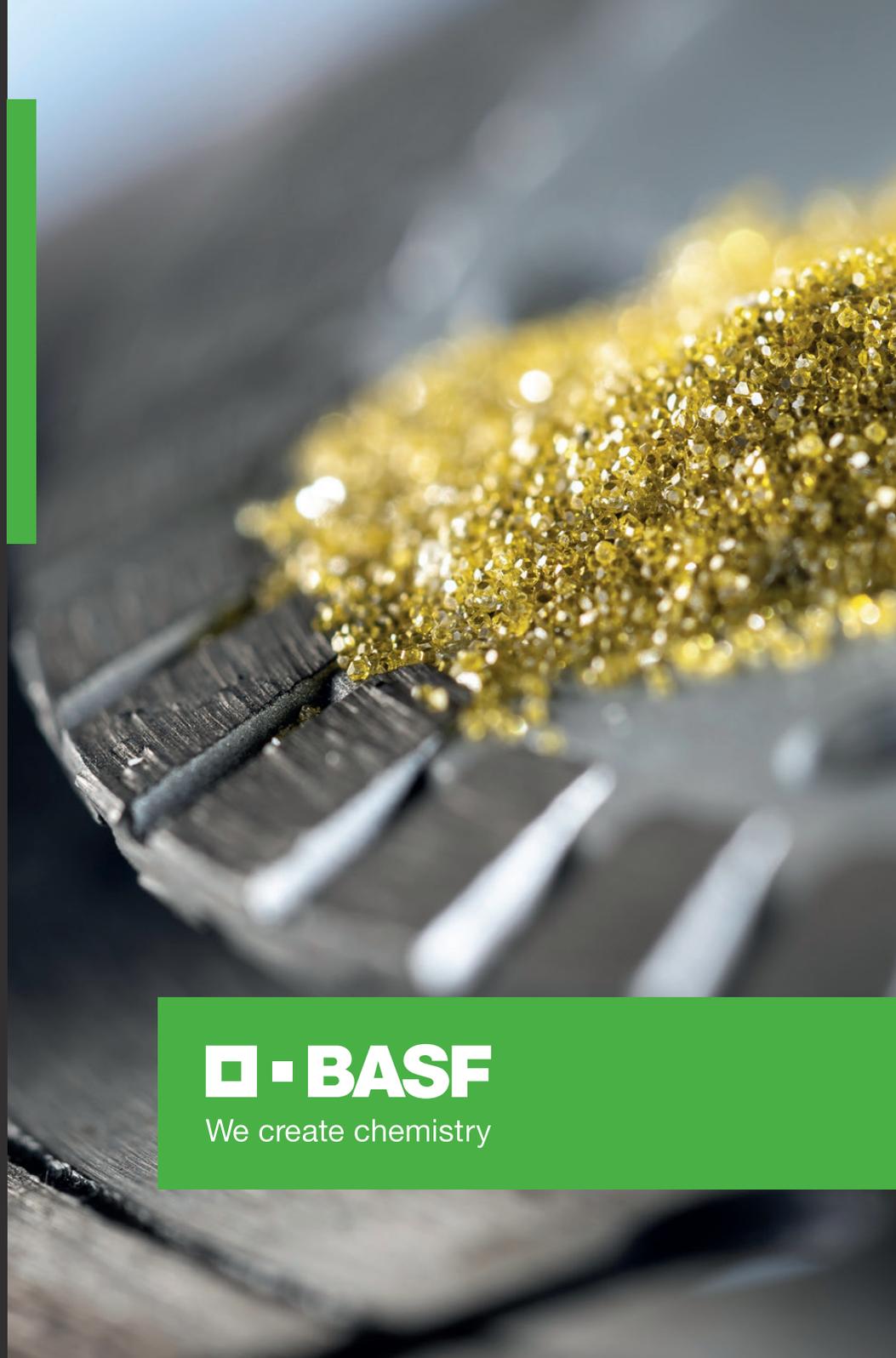




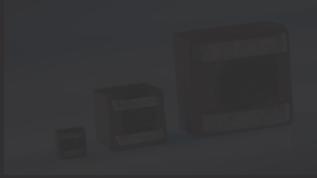
# CARBONYL IRON POWDER

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.

---

## EUROPE

BASF SE  
Metal Systems, Carbonyl Iron Powder  
G-EDM/MM  
67056 Ludwigshafen am Rhein  
Germany  
Phone: +49 621 600

---

## CHINA

BASF (China) Company Ltd.  
Pudong, Shanghai  
China  
Phone: +86 21 2039 1328

---

## TAIWAN

BASF Taiwan Ltd.  
Taoyuan 32853  
Taiwan  
Phone: +886 3483 7701

---

## KOREA

BASF(Korea) Company Ltd.  
Ansan 15423  
Korea  
Phone: +82 31 599 7513

---

## NORTH AMERICA

BASF Corporation  
Florham Park, NJ,  
USA  
Phone: +1 973 245 6000

---

## JAPAN

BASF Japan Ltd.  
Nihonbashi, Tokyo 103-0022  
Japan  
Phone: +81 03 5290 3000

---

## INDIA

BASF India Ltd.  
400 705, Navi Mumbai  
India  
Phone: +91 8291281183



Visit our website at:

[www.carbonylironpowder.com](http://www.carbonylironpowder.com)

## NOTE

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. 05/2021

® = Registered trademark of BASF SE