



# Best in class carbide supplier

## Premium quality grades

From the best materials, TEMSA CARBIDE uses the best RTP powder in the market to sinter high quality hard metals. Pre-shaped drawing based products with the ultimate HIP technology.

TUNGSTEIN  
CARBIDE

HIP  
TECHNOLOGY

**DID YOU KNOW  
THAT WE SUPPLY WITHIN  
5 WORKING DAYS?**





## Complete range for wear applications

<b>%Co</b>	<b>HV30</b>	<b>GRAIN SIZE</b>	<b>ISO GRADE</b>	<b>COMP. STRENGHT</b>	<b>TRS</b>	<b>FRACTURE KIC MNm -3/2</b>
6	1550	Fine	G1/K20	5500	2600	9.6
10	1350	Fine	K30	5200	2700	10.8
10	1650	Submicron	G1/K15-K30	5600	3600	10.4
12	1290	Fine	G2/K40	4800	3480	15.5
15	1490	Submicron	G3/K30-K40	5100	3600	11.3
15	1100	Medium	G3	4400	3000	16.9
20	950	Medium	G4	4200	2800	24
25	855	Coarse	G5	4100	2800	22
28	815	Coarse	G55	4000	2670	23
30	790	Coarse	G6	4000	2630	24

# 6%Co

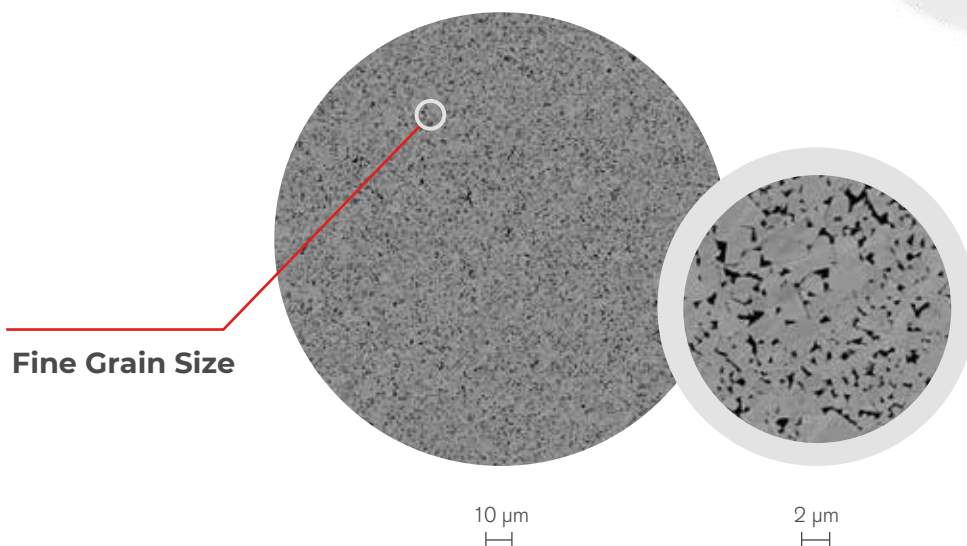
The highest hardness  
 for the most demanding  
 friction process

%Co	HV30	GRAIN SIZE	ISO GRADE	COMP. STRENGTH	TRS	FRACTURE KIC MNm -3/2
6	1550	Fine	G1/K20	5500	2600	9,6

**Porosity: <A02**  
**HIP-sintered**

**FORMING TOOLS:**

- Ironing rings
- Drawing dies
- Compacting dies
- Deep drawing dies



# 10%Co

**Dimensional compromised  
 with wear resistance  
 behaviour**

%Co	HV30	GRAIN SIZE	ISO GRADE	COMP. STRENGTH	TRS	FRACTURE KIC MNm -3/2
10	1350	Fine	K30	5200	2700	10.8
10	1650	Submicron	G1/K15-K30	5600	3600	10.4

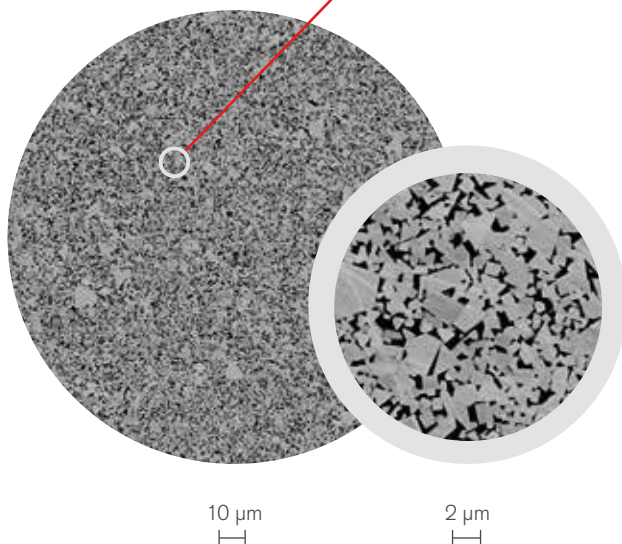
**FORMING TOOLS:**

- Punches
- Ironing rings
- Drawing dies
- Powder compaction dies
- Deep drawing dies

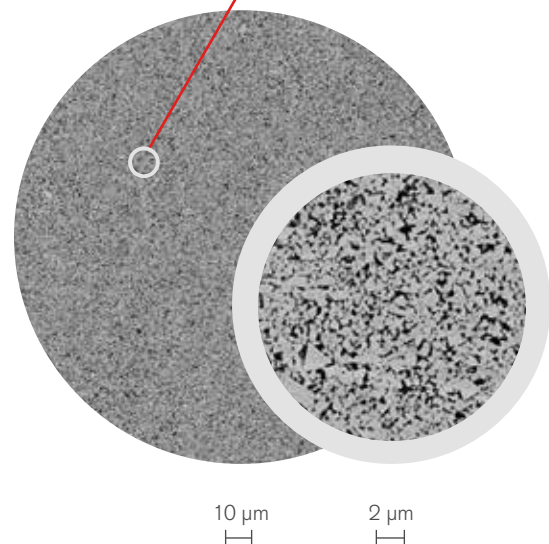
**Porosity: <A02  
 HIP-sintered**



**Fine Grain Size**



**Submicron Grain Size**



# 12%Co

Starting point for a balanced wear resistance and radial stress

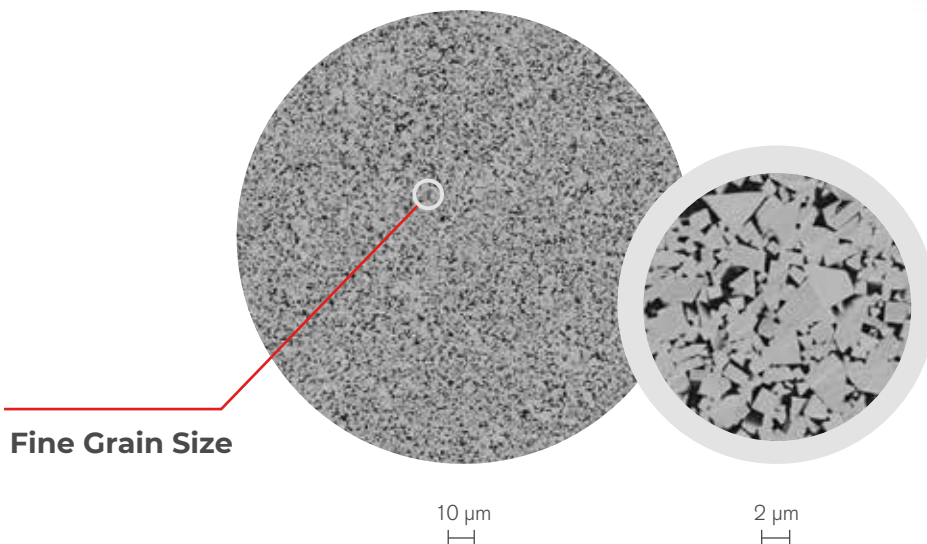
%Co	HV30	GRAIN SIZE	ISO GRADE	COMP. STRENGTH	TRS	FRACTURE KIC MNm -3/2
12	1290	Fine	G2/K40	4800	3000	15,5

**Porosity: <A02**

**HIP-sintered**

**FORMING TOOLS:**

- Punches
- Drawing dies
- Powder compaction dies
- Deep drawing dies
- Calibration tools



# 15%Co

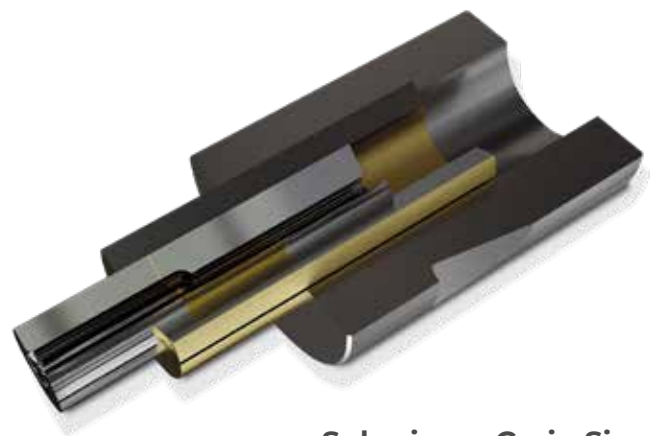
Perfect balance between impact and wear resistance

%Co	HV30	GRAIN SIZE	ISO GRADE	COMP. STRENGTH	TRS	FRACTURE KIC MNm -3/2
15	1490	Submicron	G3/K35-K40	5100	3600	11.3
15	1100	Medium	G3/K50	4400	3000	16.9

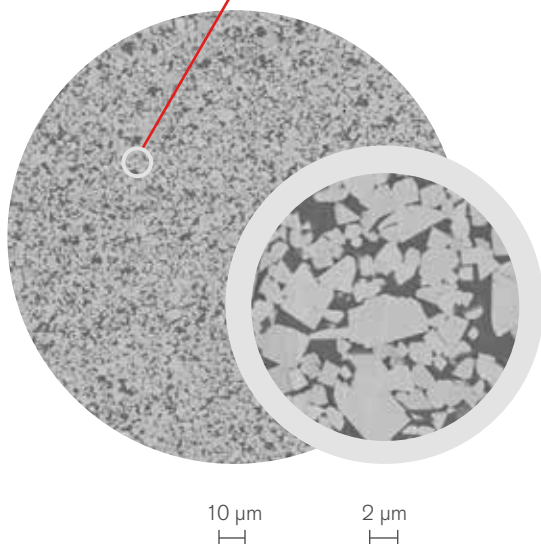
**Porosity: <A02**  
**HIP-sintered**

**FORMING TOOLS:**

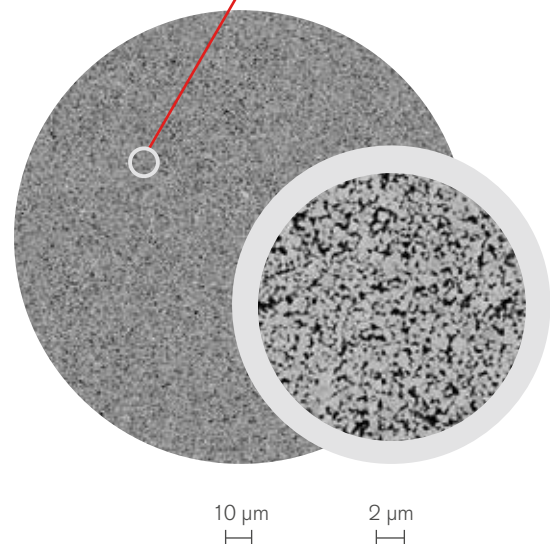
- Extrusion dies
- Powder compaction dies
- Deep drawing dies



**Medium Grain Size**



**Submicron Grain Size**



# 20%Co

When impact starts to be your concern

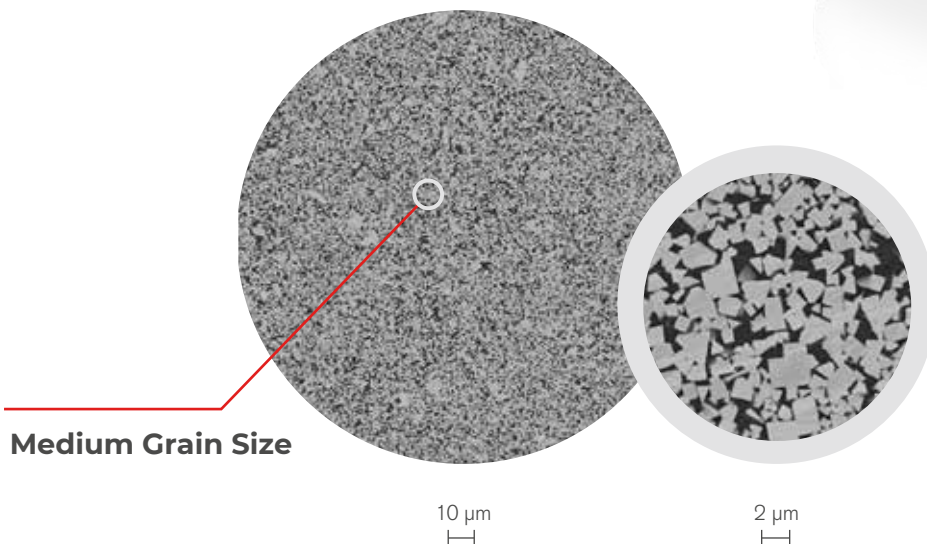
%Co	HV30	GRAIN SIZE	ISO GRADE	COMP. STRENGTH	TRS	FRACTURE KIC MNm -3/2
20	950	Medium	G4	4200	2800	24

**Porosity: <A02**

**HIP-sintered**

**FORMING TOOLS:**

- Upsetting dies
- Combined reduction + impact
- Segmented dies
- Deep drawing dies



# 25%Co

The best option for high impact resistance

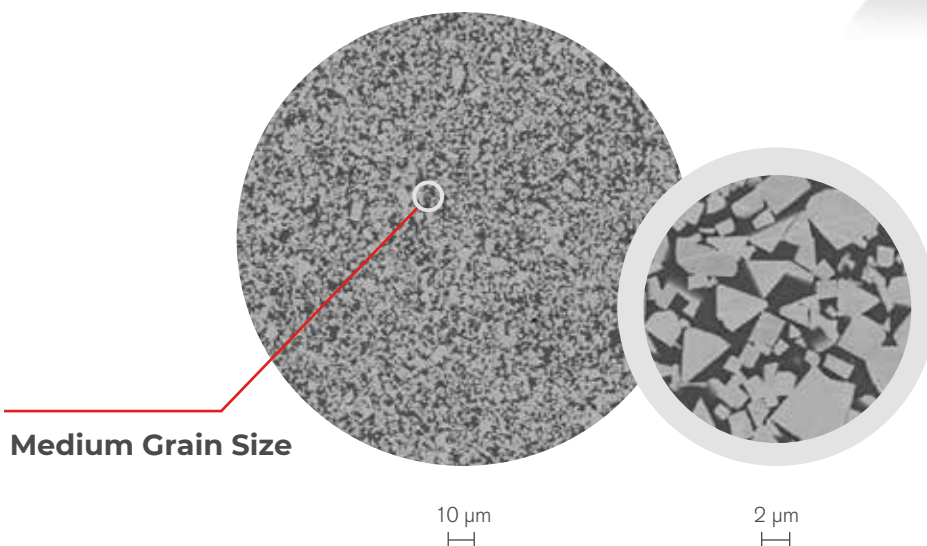
%Co	HV30	GRAIN SIZE	ISO GRADE	COMP. STRENGTH	TRS	FRACTURE KIC MNm -3/2
25	855	Medium	G5	4100	2800	22

**Porosity: <A02**

**HIP-sintered**

**FORMING TOOLS:**

- Upsetting dies
- Segmented dies
- Deep drawing dies





# 28%Co

When you take a hammer and you want to break carbide

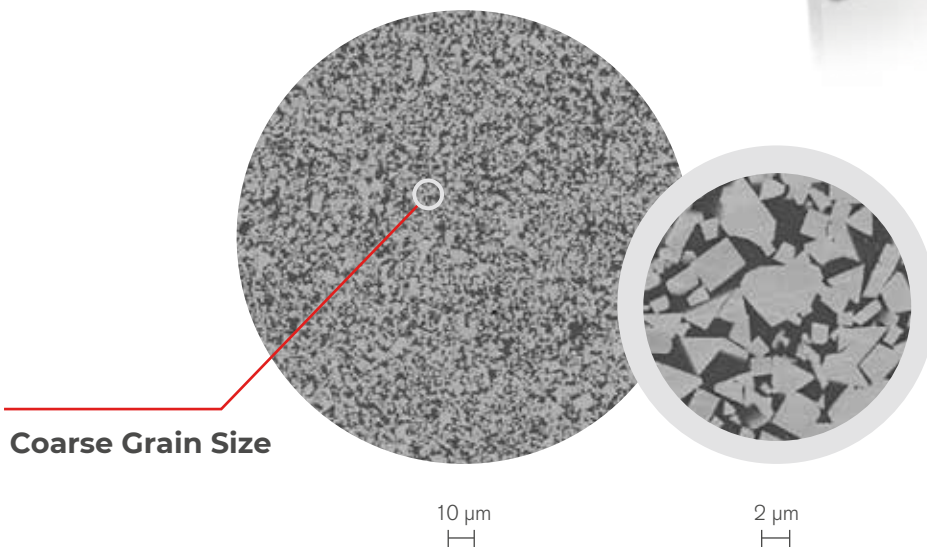
%Co	HV30	GRAIN SIZE	ISO GRADE	COMP. STRENGTH	TRS	FRACTURE KIC MNm -3/2
28	815	Coarse	G55	4000	2670	23

**Porosity: <A02**

**HIP-sintered**

**FORMING TOOLS:**

- Upsetting dies
- Segmented dies
- Deep drawing dies



# 30%Co

When the hardest steel grade is not enough for you

%Co	HV30	GRAIN SIZE	ISO GRADE	COMP. STRENGTH	TRS	FRACTURE KIC MNm -3/2
30	790	Coarse	G6	4000	2630	24

**Porosity: <A02**

**HIP-sintered**

**FORMING TOOLS:**

- Upsetting dies

