

TUNGSTEN POWDERS



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TaeguTec's tungsten powders are produced through fully automated state-of-the-art equipment. TaeguTec is exceeding customer's expectations with its guaranteed computerized quality control system and accumulated knowledge of the complete process, from raw materials through to final product.

TaeguTec provides a "Certificate of Analysis" for the physical properties and chemical compositions of every production batch. To further enhance customer satisfaction, a "Test Report" is available upon customers' request. This report informs the customer of the exacting specifications of the end product.

To meet the customer's demands for the highest quality products that will enhance productivity, TaeguTec will strive to supply consistently high quality tungsten powders through its AS 9001 (aerospace standard) quality management system acquired in 2007.



TUNGSTEN METAL POWDER (W) >>>

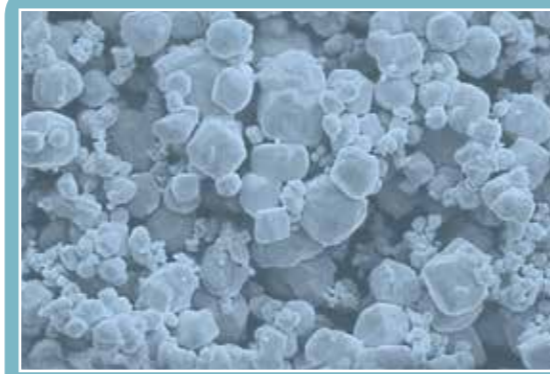
TaeguTec has been producing high quality tungsten metal powder with a variety of particle sizes for over 30 years. As a major manufacturer in the tungsten industry, TaeguTec has the experience and expertise to provide the highest level of service.

This level of service is guaranteed worldwide through the company's use of modern equipment and its metallurgical history.

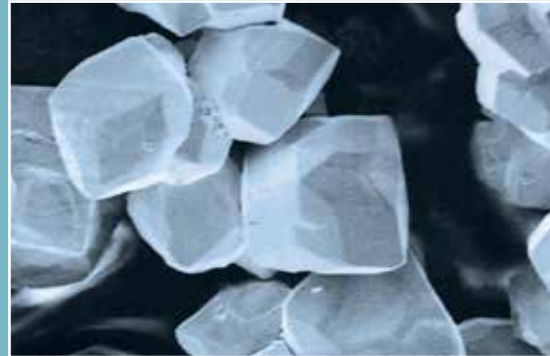
APPLICATION: Tungsten Carbide Powder, Heavy Alloy, Electrical Contacts, Diamond Tools, Wires etc.



Type: WP 05



Type: WP 35



Type: WP 250



Type: WP 35(Narrow & high peak distribution)

Type	F.S.S.S Size μm	Oxygen %, max	Scott Density g/in3
WP 04	0.4 - 0.5	1.00	5.0 - 30
WP 05	0.5 - 0.6	0.80	5.0 - 35
WP 06	0.6 - 0.7	0.70	10 - 35
WP 08	0.7 - 0.9	0.50	20 - 35
WP 10	0.9 - 1.1	0.30	20 - 35
WP 12	1.1 - 1.5	0.20	20 - 40
WP 18	1.5 - 2.0	0.20	25 - 45
WP 23	2.0 - 2.5	0.15	30 - 55
WP 25	2.2 - 2.7	0.15	30 - 55
WP 30	2.7 - 3.2	0.15	30 - 55
WP 35	3.2 - 3.7	0.15	35 - 60
WP 40	3.7 - 4.4	0.15	35 - 60
WP 45	4.4 - 4.7	0.10	40 - 70
WP 50	4.7 - 5.5	0.10	45 - 75
WP 70	6.0 - 8.0	0.10	50 - 80
WP 85	8.0 - 9.0	0.10	55 - 85
WP 100	9 - 11	0.10	55 - 90
WP 130	11 - 15	0.05	60 - 90
WP 170	15 - 18	0.05	60 - 100
WP 200	18 - 22	0.05	70 - 100
WP 250	22 - 30	0.05	90 - 120
WP 350	30 - 40	0.05	110 - 150

* F.S.S.S size, Scott Density & Oxygen content can be adjusted to customer's request.

	Guaranteed Specification	Typical Analysis
W (exclude Oxygen)	> 99.9%	> 99.95%
Al	20 ppm Max	< 10 ppm
Ca	30	< 10
Co	10	< 10
Cr	50	< 20
Fe	100	< 50
Mg	10	< 5
Mn	10	< 5
Mo	100	< 10
Na	30	< 10
Pb	10	< 5
Si	30	< 10
Sn	20	< 10
C	100	50
	★150	★100

★ : WP 04 and WP 05 type

• Specific requirements can also be met.

• Standard Packing: Double polyethylene film bags inside a steel drum (50Kg, 100Kg, 200Kg & 250Kg on request).

• Maximum lot size: 6,000kgs



TUNGSTEN CARBIDE POWDER (WC) >>>



TaeguTec quality tungsten carbide powder(WC) is produced by carburization in a hydrogen atmosphere with a mixture of tungsten metal powder and pure black carbon. The resulting WC is suitable for a wide variety of manufacturing processes.

APPLICATION: Cemented Tungsten Carbide - Cutting Tools, Wear Parts, Roll & Die, Diamond Tools, Mining Tools etc.



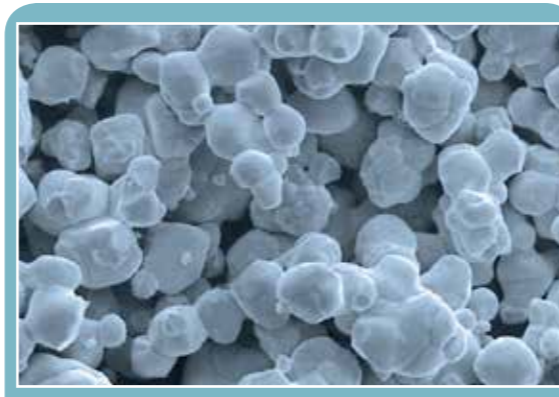
Type: WC 06



Type: WC 13



Type: WC 45H



Type: WC 100H

Ultra Fine & Fine WC

Type	F.S.S.S Size μm	Total Carbon %	Free Carbon %, max	Oxygen %, max	Dopant
WC 04	0.4 - 0.5	6.12 - 6.20	0.08	0.80	Cr 0.8 - 0.9%
WC 05	0.5 - 0.6	6.12 - 6.20	0.08	0.50	Cr 0.8 - 0.9%
WC 06	0.6 - 0.7	6.10 - 6.18	0.07	0.40	
WC 07	0.7 - 0.8	6.10 - 6.18	0.07	0.40	
WC 08	0.8 - 0.9	6.10 - 6.18	0.07	0.30	

• F.S.S.S, total carbon and dopant can be adjusted to customer's request.

Standard WC

Type	F.S.S.S Size μm	Total Carbon %	Free Carbon %, max	Oxygen %, max
WC 10	0.9 - 1.1	6.10 - 6.18	0.06	0.15
WC 13	1.1 - 1.5	6.10 - 6.18	0.06	0.15
WC 15	1.3 - 1.7	6.10 - 6.18	0.06	0.12
WC 18	1.7 - 2.0	6.10 - 6.18	0.06	0.10
WC 20	1.7 - 2.2	6.10 - 6.18	0.06	0.08
WC 25	2.2 - 2.7	6.10 - 6.18	0.06	0.06
WC 30	2.7 - 3.2	6.10 - 6.18	0.06	0.06
WC 35	3.2 - 3.7	6.10 - 6.18	0.06	0.06
WC 40	3.7 - 4.2	6.10 - 6.18	0.06	0.05
WC 45	4.2 - 4.7	6.10 - 6.18	0.06	0.05
WC 50	4.7 - 5.2	6.10 - 6.18	0.06	0.05
WC 55	5.2 - 5.7	6.10 - 6.18	0.06	0.05
WC 60	5.7 - 6.3	6.10 - 6.18	0.06	0.05

	Guaranteed Specification	Typical Analysis
Al	30 ppm Max	< 10 ppm
As	30	< 10
Ca	30	< 15
Co	200	< 100
Cr	100	< 50
Fe	300	< 200
Mg	20	< 5
Mn	20	< 10
Mo	100	< 50
Na	20	< 10
Ni	50	< 30
Pb	20	< 5
Si	30	10
Sn	20	10

- Specific requirements can also be met upon request.
- Standard Packing: Double polyethylene film bags inside a steel drum (50Kg, 100Kg, 200Kg & 250Kg on request).
- Maximum lot size: 6,000kgs



TUNGSTEN CARBIDE POWDER (WC) >>>

ALLOY PROPERTIES >>>

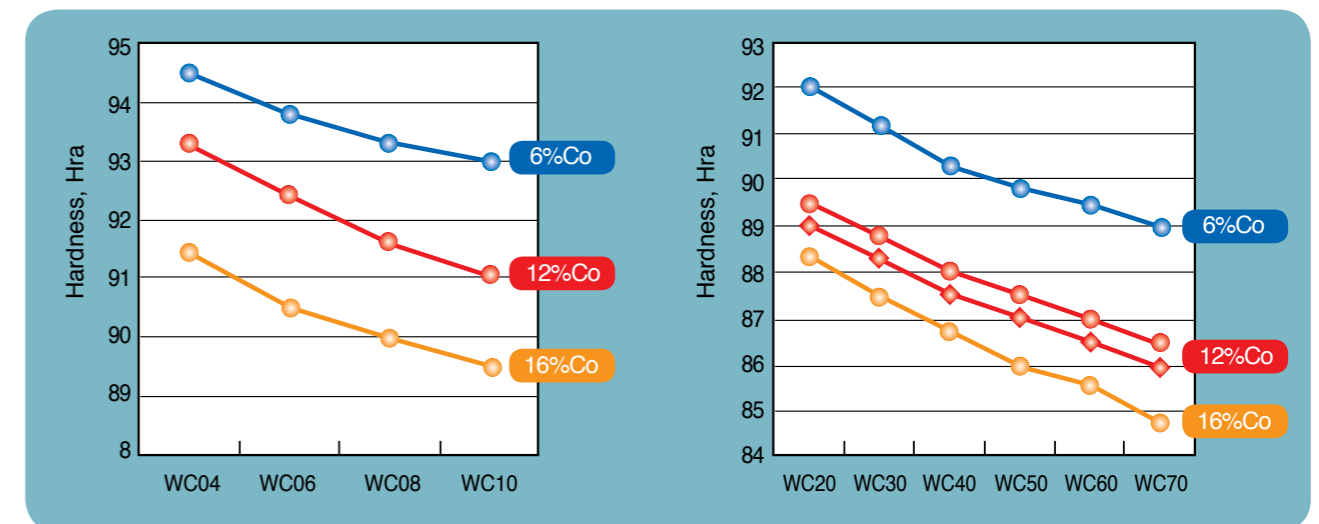
WC HT(High Temperature)

Type	F.S.S.S Size μm	Total Carbon %	Free Carbon %, max	Oxygen %, max
WC 25 H	2.2 - 2.7	6.10 - 6.18	0.05	0.06
WC 30 H	2.7 - 3.2	6.10 - 6.18	0.05	0.06
WC 35 H	3.2 - 3.7	6.10 - 6.18	0.05	0.05
WC 40 H	3.7 - 4.2	6.10 - 6.18	0.05	0.05
WC 45 H	4.2 - 4.7	6.10 - 6.18	0.05	0.05
WC 50 H	4.7 - 5.2	6.10 - 6.18	0.05	0.05
WC 55 H	5.2 - 5.7	6.10 - 6.18	0.05	0.05
WC 60 H	5.7 - 6.2	6.10 - 6.18	0.05	0.05
WC 65 H	6.2 - 6.7	6.10 - 6.18	0.05	0.05
WC 70 H	6.7 - 8.0	6.10 - 6.18	0.05	0.05
WC 100 H	8.0 - 12.0	6.10 - 6.18	0.05	0.05
WC 150 H	12 - 17	6.10 - 6.18	0.05	0.03
WC 180 H	17 - 20	6.10 - 6.18	0.05	0.03
WC 200 H	18 - 23	6.10 - 6.18	0.05	0.03
WC 250 H	20 - 30	6.10 - 6.18	0.05	0.03
WC 350 H	30 - 40	6.10 - 6.18	0.05	0.03

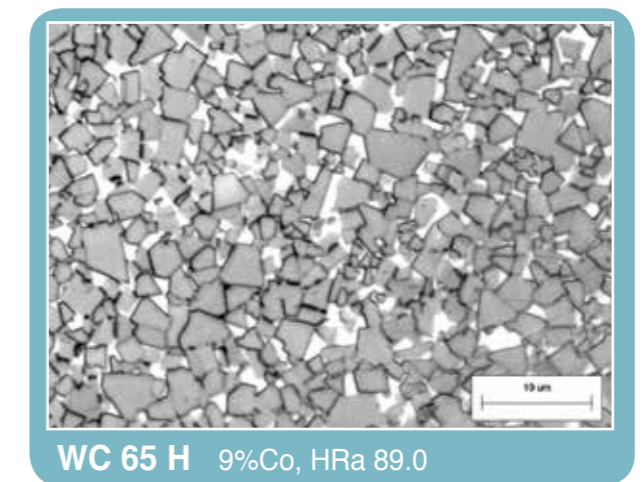
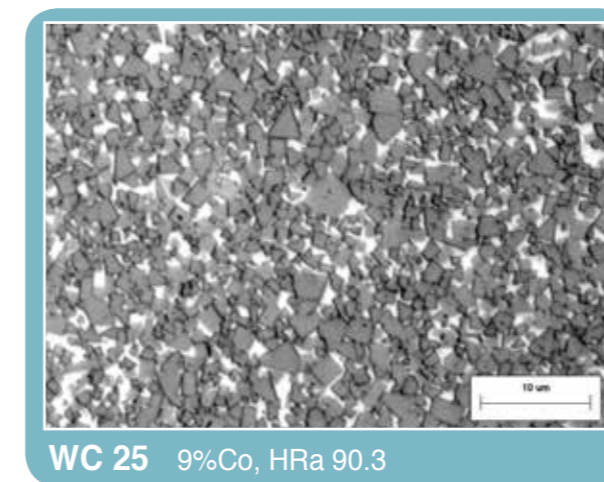
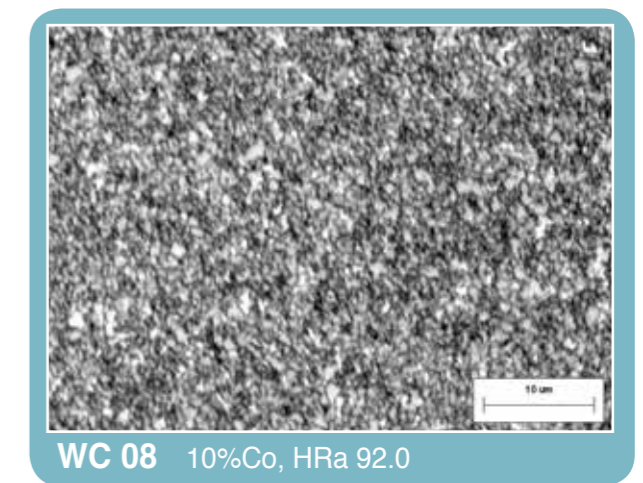
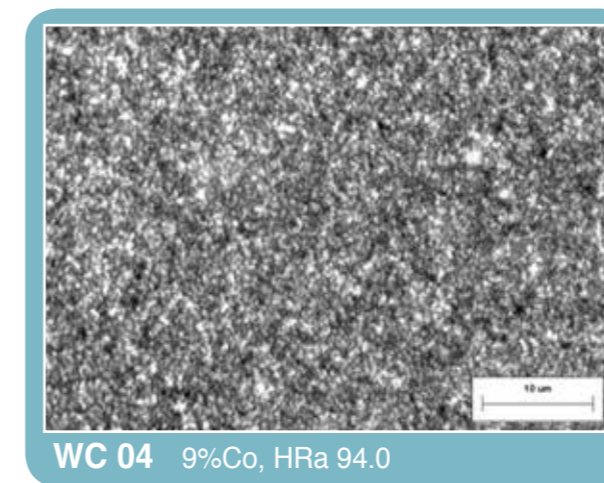
• F.S.S.S, total carbon and dopant can be adjusted to customer's request.

	Guaranteed Specification	Typical Analysis
Al	30 ppm Max	< 10 ppm
As	30	< 10
Ca	30	< 15
Co	200	< 100
Cr	100	< 50
Fe	300	< 200
Mg	20	< 5
Mn	20	< 10
Mo	100	< 50
Na	20	< 10
Ni	50	< 30
Pb	20	< 5
Si	30	10
Sn	20	10

Hardness by WC



Microstructure



READY TO PRESS (RTP) POWDERS

TaeguTec's Ready To Press (RTP) powders are produced using the latest technology that includes spray dryers, ball and attritor mills.

Using these modern processes, TaeguTec's RTP powders are guaranteed and are already established in a diverse range of industries

TaeguTec also supplies tailor-made RTP powder as per customer's specification.

Typical Composition and Physical Properties

Grades	WC %	Co %	Ni %	Others %	Apparent Density (g/cc)	Flow Rate (sec/50g)	Hc (Oe)	Density	Hardness (Hra)	TRS(Avg.)	
										N/mm ²	kpsi
TU6	93.7	6.0		0.3	3.10	25	235 - 310	14.93	92.7	2620	380
TU10	89.4	10.0		0.5	3.00	28	210 - 260	14.43	92.0	3310	480
TS12	88.0	12.0		1.0	2.90	28	310 - 400	14.15	92.7	2758	400
TK10	93.6	6.0		0.3	3.40	23	220 - 280	14.92	92.5	2758	400
TK20	94.0	6.0			3.40	23	190 - 240	14.98	92.1	2758	400
TK30	91.0	9.0			3.20	26	160 - 200	14.65	91.0	3103	450
TK45	87.0	13.0			3.00	30	105 - 145	14.25	88.9	3448	500
TD20	87.5	12.0		0.5	3.00	30	150 - 220	14.25	90.6	2758	400
TD30	85.5	14.0		0.5	3.00	30	110 - 170	14.05	89.6	3103	450
TD50	84.0	16.0			3.00	30	100 - 150	13.96	87.9	3103	450
NM6	93.5		6.0	0.5	3.30	23		14.9	92.3	2069	300
NM10	89.5		10.0	0.5	3.20	27		14.5	90.3	2413	350

- Physical properties are based on results from grade powder lot testing.
- Specific requirements can also be met upon request.
- Standard Packing: In double polyethylene bags inside of steel drums(25kgs).



TUNGSTEN POWDERS

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