



# ELMET

TECHNOLOGIES

## POWDERS FOR SPECIAL APPLICATION

# ZIRCONIUM CARBIDE (GRADE A, GRADE B)

This specification covers zirconium carbide powder (ZrC), available in both Grade A and Grade B, produced with custom properties available to meet DOD and MIS specifications. ZrC is used as a combustion stabilizer and burn rate modifier in solid fuel propellants and applications.

### CHEMICAL CHARACTERISTICS

(Mass fraction in % [cg/g]; ppm [ $\mu\text{g/g}$ ])

Element	Min/max	Grade A	Grade B
Zr + Hf	Min	87.4%	87.4%
Hf	Max	2.0%	2.0%
C total	Min	11.4%	10.8%
C Bound	Min	11.0%	9.5%
C Free	Max	0.4%	1.5%
Fe	Max	0.05%	0.05%
O	Max	0.6%	0.6%
N	Max	0.8%	0.8%

### PHYSICAL CHARACTERISTICS

Particle Size Distribution\*

	Grade A	Grade B
D 10%	2-4	1-3
D 50%	5-13	3-5
D 90%	11-35	8-12

\*MICROTRAC by Laser Light Diffraction per ASTM C 107



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