



A Nickel Based Blended Powder
for the Laser Cladding Process

Eutectic LC 41560



- Best alloy for abrasion in severe wear conditions
- Hard, tough matrix used for a wide variety of industrial applications
- Excellent for ground engaging equipment
- Uniform powder size distribution for trouble free operation
- Excellent welding characteristics

Eutectic LC 41560

Eutectic LC 41560 is a gas atomized nickel based alloy designed for use with the laser cladding (LC) process. Eutectic LC 41560 is blended with 60% (by weight) of tungsten carbide (WC) to form a composite alloy. Eutectic LC 41560 is available with 3 different carbide types:

1. 41560-CWC: 60% Cast Tungsten Carbide
2. 41560-MWC: 60% Macrocrystalline Tungsten Carbide
3. 41560-SWC: 60% Spherical Tungsten Carbide

The coatings produced are hard, dense and especially resistant to low stress abrasion and erosion. Careful control of the chemistry and particle size distribution of both powder components assures consistent and reliable performance in laser cladding systems and in the most challenging applications.

TECHNICAL DATA

Typical Values	
Matrix Hardness:	50 HRC
Carbide Hardness:	(VHN300)
CWC:	2200
MWC:	2100
SWC:	3000
Deposit Density:	13.2 g/cm ³ (0.476 lb/in ³)
Max. Service Temperature:	650°C (1200°F)
Hall Flow rate:	13.5-14.5 sec/50g

Available Carbide Types:

CWC: W₂C-WC (angular)

MWC: WC (angular)

SWC: W₂C-WC (angular)

Nominal Composition: WC (60%), C, Cr, Si, B, Ni

PROCEDURE FOR USE:

Remove damaged material. Clean areas to be welded. Match heat input during welding to component dimensions. Follow the prepared welding procedure for the specific base metal chemistry. Keep dilution with base metal low. Allow workpiece to slowly cool upon completion of welding.

It is important that laser energy be kept as low as possible to maintain WC integrity, while maintaining a well bonded overlay.

Coatings of Eutectic LC 41560 can be finished by grinding.

Please contact your Eutectic Surface Coatings Specialist for more information.

TYPICAL APPLICATIONS

The overlay offers excellent resistance to abrasion, erosion, corrosion, galling and gauging on carbon steels, stainless steels, cast iron and nickel alloys.

41560-CWC: Most commonly used WC on the market for severe wear from abrasion and/or erosion. Generally used for low stress abrasion in Mining and Mineral Processing environments. Due to its eutectic structure, it is recommended that low welding currents are used to minimize carbide dissolution.

41560-MWC: A single crystal WC that withstands the intense heat of arc welding better than CWC. Wear performance and applications are similar to CWC.

41560-SWC: Primarily used where high stress (2-body) abrasion is encountered. Applications include crushing equipment, track undercarriage, drill systems.

