



CARPENTER®

WHEN PERFORMANCE IS EVERYTHING

ADVANCED SOLUTIONS FOR AEROSPACE ENGINES

The future of flight has arrived. Global air travel is growing, and with it, demand for airplanes that deliver more efficiency, reliability, and cost-effectiveness. The airplanes of tomorrow will require increased fuel efficiency and reduced operating costs.

Advances in engine technology will increasingly depend on new materials solutions that are stronger, lighter, can withstand higher temperatures, and result in less fuel consumption.

Your Solutions Partner

Carpenter Technology Corporation helps customers rethink the boundaries of specialty alloys, finding new uses for existing alloys or developing new materials for unique design challenges.

- CarTech Thermo-span alloy enables active clearance control between fan blade tips and the engine case for optimal efficiency.
- CarTech® Ferrium C64*¹ alloy provides wear resistance in harsh conditions for mission-critical reliability.
- Powder Metals for additive manufacturing enable more complex designs, allowing engines to run hotter.
- Experimental superalloys of tomorrow are being designed to increase strength and temperature resistance, improve processing, and lower relative cost.



The future of aerospace demands continuous innovation. Decades of materials development and manufacturing experience allow us to help you compete consistently in a changing world.

Production capacity, material selection, research and development, quality, and expertise are crucial for mission-critical performance. With Carpenter, you have:

- The world's most advanced, integrated mill system, with increased wrought & powder capacity
- Access to highly trained materials experts, metallurgists, research scientists, and engineers
- Superior quality, ultra-premium alloys, powders, titanium, and engineered materials

**Bring your materials challenges
to Carpenter.**

Let's go farther together.



Carpenter produces hundreds of alloy grades. Those listed here are some of our most requested grades. Customized compositions can be developed to your specifications.

ALLOYS FOR AEROSPACE ENGINES	HIGH TEMPERATURE (>1200°F)	CORROSION RESISTANT	HIGH STRENGTH (>250 KSI)	HIGH STRENGTH TO WEIGHT RATIO	HIGH WEAR RESISTANCE/FATIGUE STRENGTH	HIGH HARDNESS
Nickel-base						
CarTech 31V	✓	✓	✓			
CarTech 41	✓	✓	✓			
CarTech 600	✓	✓				
CarTech 625	✓	✓	✓		✓	
CarTech 680	✓	✓	✓			
CarTech 718	✓	✓	✓			
CarTech 706	✓	✓	✓			
CarTech 901	✓	✓				
CarTech Waspaloy	✓	✓	✓			
CarTech X-750	✓		✓			
CarTech 80A	✓	✓			✓	
CarTech NiMark® 250			✓	✓	✓	
CarTech NiMark® 300			✓	✓	✓	
Cobalt-base						
CarTech L-605		✓				✓
CarTech 188	✓	✓	✓			
CarTech MP35N ¹		✓	✓			✓
Iron-base						
CarTech A-286	✓	✓				
CarTech 355		✓	✓			
CarTech 430/410						
CarTech 720			✓			
CarTech Greek Ascoloy	✓	✓	✓			
Low Expansion Alloys						
CarTech Thermo-Span®	✓		✓			
CarTech CTX-1 Alloy			✓			
CarTech CTX-3 Alloy			✓			
CarTech CTX-909 Alloy			✓			
PH Stainless						
CarTech Custom® 465		✓	✓	✓		
CarTech Custom 630		✓	✓			✓
CarTech Custom 631		✓				
Alloy Steels						
CarTech AerMet® 100			✓	✓	✓	
CarTech AerMet® 310			✓	✓	✓	
CarTech AerMet® 340			✓		✓	✓
Gear Alloys						
CarTech CBS 223					✓	✓
CarTech Pyrowear 53			✓			✓
CarTech Pyrowear 675		✓				✓
CarTech 4340		✓				✓
CarTech Ferrium C61™ ²				✓	✓	✓
CarTech Ferrium C64® ²				✓	✓	✓
CarTech 9310					✓	✓
CarTech M-50 NiL						✓
CarTech Nitalloy N			✓			✓
CarTech Nitalloy 135M						✓
CarTech 16NCD13						✓
Bearing Alloys						
CarTech Pyrowear 675		✓				✓
CarTech BG-42		✓			✓	✓
CarTech 52100				✓		✓
CarTech M-50						✓
CarTech CBS-50 NiL					✓	✓
CarTech 300M			✓		✓	✓



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