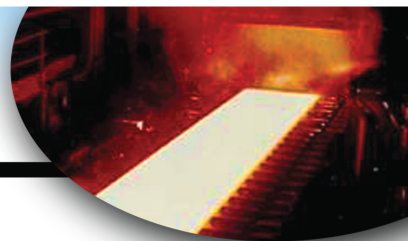




G.O. Carlson Plate



CARLSON ALLOYS EC200 (UNS N02200) EC201 (UNS N02201) PRODUCT DATA BULLETIN

Combines good mechanical properties with excellent resistance to corrosive environments. Thermal and electrical conductivities are considerably higher than other stainless steel or nickel alloys. Excellent ductility at sub-zero temperatures.

GENERAL PROPERTIES AND TYPICAL APPLICATIONS

Carlson Alloy EC200 is commercially pure nickel, combining good mechanical properties with excellent resistance to many corrosive environments. This alloy retains its strength at high temperatures. It is tough and ductile at sub-zero temperatures.

EC200 is ferromagnetic and has one of the largest magnetostrictive effects of any commercial material. Its thermal and electrical conductivities are considerably higher than other stainless steels or nickel alloys.

Carlson EC201 is a restricted carbon (0.02% max.) version of EC200. It is preferred for exposure to temperatures above 600°F (315°C); and it is superior whenever creep strength is an important criterion.

APPLICATIONS:

EC200 and EC201 provide excellent corrosion resistance to hot concentrated alkali (except ammonium hydroxide). These alloys

exhibit good corrosion resistance to dry chlorine, fluorine, hydrogen chloride and hydrogen fluoride up to moderately elevated temperatures.

The corrosion resistance of both alloys make them particularly useful for maintaining product purity in food processing and in the production or processing of synthetic fibers, alkalies, fatty acids, soaps and detergents.

Chemical Processing – caustic processing and storage, chemical shipping containers, synthetic fiber production, fluorine electrolysis.

Food Processing Equipment.

Magnetostrictive Devices.

Aerospace and Missile components – rocket motor cases.

CHEMICAL COMPOSITION (NOMINAL ANALYSIS, PERCENT)

	EC200 (UNS N02200)	EC201 (UNS N02201)
Carbon, max.	0.15	0.02
Manganese, max.	0.35	0.35
Silicon, max.	0.35	0.35
Sulfur, max.	0.01	0.01
Copper, max.	0.25	0.25
Iron, max.	0.40	0.40
Nickel*	99.0 min.	99.0 min.

*Element shall be determined arithmetically by difference.

AVAILABLE PRODUCTS*

Plate	3/16" through 4" Widths to 126", lengths to 480" <i>For larger dimensions – inquire.</i>
Plate Products	cut bar, plasma cut or machined rings and discs, heads, rolled and tack-welded cylinders, and special cut shapes

* Bar, billet, ingot and master alloy pigs are available from: ELECTRALLOY, a G.O. Carlson Inc. company, 175 Main Street, Oil City, PA 16301 (800) 458-7273

MECHANICAL AND PHYSICAL PROPERTIES

	EC200		EC201	
	Annealed	As Rolled	Annealed	As Rolled
Tensile Strength, psi, min.	55,000 (380 MPa)	55,000 (380 MPa)	50,000 (345 MPa)	55,000 (380 MPa)
Yield Strength (0.2% offset), psi, min.	15,000 (100 MPa)	20,000 (135 MPa)	12,000 (83 MPa)	12,000 (83 MPa)
Elongation in 2 in. (50.8 mm), or 4D %, min.	40	30	40	30
Density, grams per cu. cm.	8.89			
lb. per cu. in.	0.321			
Melting Range, °F	2615-2635			

SPECIFICATIONS

**ASME SB162
ASTM B162**

Information in this product data bulletin is not intended for specification purposes. All data should be considered as typical or average, except when listed as minimum or maximum values.

The applications cited will allow a potential user to consider this Carlson alloy for a particular installation. But none of the information is to be construed as a warranty of fitness for any application.

As with all special-service materials, this alloy must be tested under actual service conditions to determine its suitability for a specific project.



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