

Olin Brass Alloy C18080 is Cu Cr Ag Fe Ti Si system developed jointly by Olin Brass and Wieland-Werke. This alloy provides engineers a unique combination of properties. It incorporates very high electrical and thermal conductivity, excellent formability, good plateability and extremely high resistance to stress relaxation up to 200° C. These unique properties have been validated in applications from under-hood automotive connectors to smart grid power distribution components. For more information contact Olin Brass Market Development Engineering at 618-258-5255, OlinBrass.com or email us at info@olinbrass.com.

Chemical Composition

Copper¹	Remainder
Chromium	0.20-0.70%
Silver	0.01-0.30%
Iron	0.02-0.20%
Titanium	0.01-0.15%
Silicon	0.01-0.10%

1. Cu plus Named Elements, 99.8%

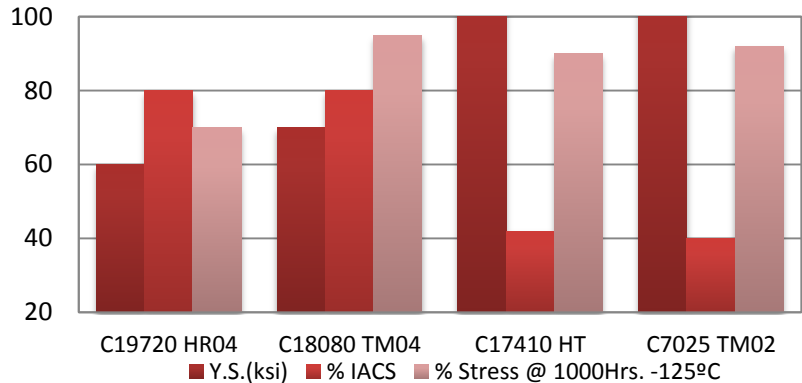


Figure 1: Comparison of typical alloys used in power electronic and automotive applications.

Physical Properties

	English Units	Metric Units
Density	0.320 lb/in ³ @ 68°F	8.90 g/cm ³
Thermal Conductivity	185 BTU-ft/ft ² -hr-°F	320 W/m ² K
Electrical Resistivity	12.96 ohm circ mils/ft	2.155 microhm-cm
Electrical Conductivity (annealed)	80% IACS*	0.46 megamho/cm
Modulus of Elasticity	TM04 20,300,000 psi TM08 18,500,000 psi	140 kN/mm ² 127 kN/mm ²
Thermal Capacity(Specific Heat)	0.090 Btu/lb/F° @ 68°F	377.1 J/kg · °K at 293 K
Coeff. Of Thermal Expansion		
68-212°F (20-100°C)	8.90 PPM/°F	16.0 PPM/°C
68-392°F (20-200°C)	9.20 PPM/°F	16.6 PPM/°C
68-572°F (20-300°C)	9.80 PPM/°F	17.6 PPM/°C
Magnetic Permeability		

*International Annealed Copper Standard

Mechanical Properties

Temper ¹	Tensile Strength		Minimum Yield Strength ²		% Elongation	Typical 90° Bend Formability GW/BW ³	
	ksi	N/mm ²	ksi	N/mm ²			
TM04	70-81	480-560	65	450	8	0.80	0.50
TM08	78-91	540-600	75	520	4	1.40	1.20
TR08 ⁴	75-91	520-620	72	500	4	2.50	3.00

¹ Mechanical properties subject to change. Tensile strength and elongation are for reference only.

² C18080 is manufactured to a yield strength.

³ R/T = Bend Radius/Material Thickness <0.016" (0.4mm) thick, 11/16 (17.5mm) wide.

⁴ TR08 available above 0.018" (0.4mm). TM08 is limited in thickness.

Olin Brass Headquarters

4801 Olympia Park
Plaza, Suite 3500
Louisville, KY 40241
Ph: 502-873-3000

GBC METALS ASIA PACIFIC PTE LTD

1 Kim Seng Promenade
Great World City, E Tower
Singapore 237994
Ph: 65.6238.1155

GBC METALS LLC SHANGHAI

Room 2004 Aetna Tower
No. 107 Zunyi Rd
Shanghai 200051 China
Ph: 86.21.6237.5898

OLIN BRASS-HEADQUARTERS

4801 Olympia Park
Plaza, Suite 3500
Louisville, KY 40241
Ph: 502-873-3000

OLIN BRASS - MILL

285 Lewis & Clark Blvd.
East Alton, IL 62024
Ph: 618-258-5255

BRYAN METALS INC.

1103 South Main Street
Bryan OH 43506-0487
Ph: 419-636-4571
Fx: 419-636-3994

SOMERS THIN STRIP

215 Piedmont Street
Waterbury, CT 06706
Ph: 203-597-5000
Fx: 203-597-5081

A.J. OSTER COMPANY

180 ALEXANDRA WAY
Carol Stream, IL 60188-2068
Ph: 630-260-1040
Ph: 800-323-9644
Fx: 630-260-1102

A.J. OSTER CARIBE, INC.

Centro industrial Rio Canas
Lote 29, P.M.B HC-01
Box 29030
Caguas, PR 00725
Ph: 787-747-7575

A.J. OSTER FOILS, INC.

2081 McCrea Street
Alliance, OH 44601-2793
Ph: 330-823-1700
Ph: 800-321-9750
Fx: 330-823-1705

A.J. OSTER WEST INC.

22833 La Palma Avenue
Yorba Linda, CA 92887-4767
Ph: 714-692-1000
Ph: 800-933-5933
Fx: 714-692-1225

A.J. OSTER COMPANY

457 Industrial Drive
Warwick, RI 02886
Ph: 401-739-0800
Fx: 401-739-1276

INTERNATIONAL SALES OFFICES & FACILITIES**GBC METALS ASIA PACIFIC PTE LTD.**

1 Kim Seng Road Promenade
Great World City, East Tower #13-04
Singapore 237994
Ph: 65.6238.1155
Fx: 65.6238.0660

GBC METALS LLC SHANGHAI

Room 2004, Aetna Tower
No. 107 Zunyi Road
Shanghai 200051, China
Ph: 86.21.6237.5898
Fx: 86.21.6237.5805

OLIN LUOTONG METALS (GZ) Co Ltd

No. 8 Jung Gong Road, East District
Guangzhou Economic Technological & Dev District
Guangzhou, P.R. China 510530
Ph: 86.20.8226.6818
Fx: 86.20.8226.6718

DOWA-OLIN METAL CORPORATION

2630, Shingai
Iwata-shi, Shiznoka-ken
438, Japan
Ph: 81.538.37.5111
Fx: 81.538.37.0147

OLIN BRASS - INTERNATIONAL DISTRIBUTORS**UNITED KINGDOM / IRELAND****Aurubis UK Ltd.**

Rabone Park, Smethwick
West Midlands B66 2NN
England
Ph: 44 (0) 121 555 1199
Fx: 44 (0) 121 555 1188
Email: info-uk@aurubis.com
Website: www.aurubis.com

EUROPE**Walter Türkis GmbH**

Struthstrasse 35
55743 Idar-Oberstein
Germany
Ph: 49 (0) 6781 62-0
Fx: 49 (0) 6781 62-28
Email: service@tuerkis-schneid-center.de
Website: www.tuerkis-schneid-center.de

OLIN BRASS MEXICO S.A. de CV

Av. La Griega # 117
Parque Industrial Queretaro
Santa Rosa, Jaurgui
Queretaro, Mexico 76220
Ph: 52 442 2 29 40 00
Fx: 52 442 2 29 40 29