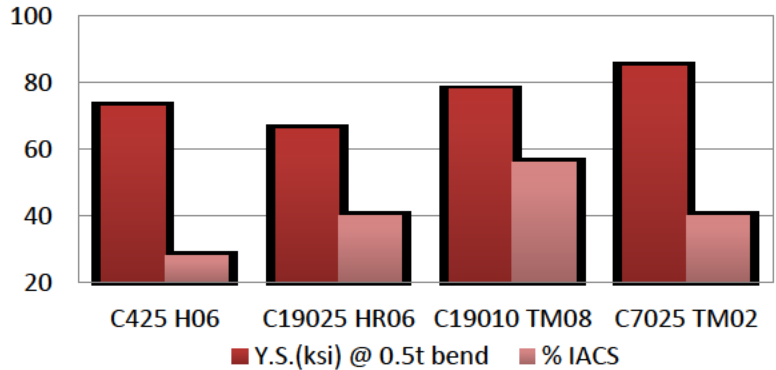


A proven alloy in applications from automotive terminals to miniaturized electronic connectors, C19010 is versatile option for terminal designers looking for enhanced material performance over traditional high-copper alloys. A combination of high strength and good electrical conductivity are achieved in this precipitation-hardened alloy through a precision controlled process designed to optimize the alloys performance while retaining excellent formability. For more information contact Olin Brass Market Development Engineering at 618-258-5255, OlinBrass.com or email us at info@olinbrass.com.

**Chemical Composition**

<b>Copper<sup>1</sup></b>	<b>Remainder</b>
<b>Nickel</b>	<b>0.8 - 1.80%</b>
<b>Silicon</b>	<b>0.15 -0.35%</b>
<b>Phosphorus</b>	<b>0.01-0.05%</b>

<sup>1</sup> Copper plus named elements, 99.5%



**Figure 1:** Comparison of max Yield Strength at 0.5t bends and Electrical Conductivity of various automotive terminal materials

**Physical Properties**

	English Units	Metric Units
Density	0.323 lb/in <sup>3</sup> @ 68°F	8.94 g/cm <sup>3</sup>
Thermal Conductivity	150 BTU-ft/ft <sup>2</sup> -hr-°F	260 W/mK
Electrical Resistivity	18.5 ohm circ mils/ft	3.078 microhm-cm
Electrical Conductivity (annealed)	55% IACS*	0.325 megamho/cm
Modulus of Elasticity	18,500,000 psi	130 kN/mm <sup>2</sup>
Coeff. Of Thermal Expansion 68-572°F (20-300°C)	9.3 PPM/°F	16.8 PPM/°C

\*International Annealed Copper Standard

**Mechanical Properties**

Temper <sup>1</sup>	Tensile Strength		Yield Strength		% Elongation <sup>2</sup>	Typical 90° Bend Formability GW/BW <sup>3</sup>	
	ksi	N/mm <sup>2</sup>	ksi	N/mm <sup>2</sup>			
TM00 <sup>4</sup>	-	-	-	-	-	-	-
TM02 <sup>4</sup>	-	-	-	-	-	-	-
TM04 <sup>4</sup>	-	-	-	-	-	-	-
TM06 <sup>4</sup>	-	-	-	-	-	-	-
TM08	84-94	580-650	78 min	540 min	8 min	0.5	0.7

<sup>1</sup> Mechanical properties subject to change. All tempers listed are made to a Yield Strength specification.

<sup>2</sup> Nominal Values in 2" (51mm)      <sup>3</sup> R/T = Bend Radius/Material Thickness <0.016" (0.4mm) thick, 11/16 (17.5mm) wide.

<sup>4</sup> Consult mill for temper availability

**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