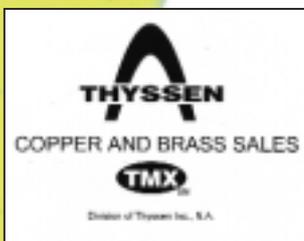
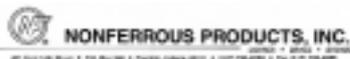


# CDA Sponsors Mold Design Guidelines

## in MM&T

Look for ideas that will allow faster processing of plastic and production of higher-quality parts



Companies and representatives, with contact information, serving on the Task Group include:

(For more information from these companies, write in the reader service number on the reader service card or fax-back page)

#### COPPER ALLOY PRODUCERS

**AMPCO METAL INCORPORATED**, Wayne Jakusz, 1745 South 38th Street, Milwaukee, WI 53201. Phone 800.844.6008 B000A

**BRUSH WELLMAN ENGINEERED MATERIALS**, J. Scott Smyers, 17876 St. Clair Avenue, Cleveland, OH 44110. Phone 800.321.2076 B000A

**HUSSEY MARINE ALLOYS LTD.**, H. Russell Garrett, 100 Washington Street, Leetsdale, PA 15056-1099. Phone 800.767.0550 B000A

**NGK METALS CORPORATION**, Glade F. Nelson, P.O. Box 13367, Reading, PA 19612-3367. Phone 800.237.9526 B000A

**REVERE COPPER PRODUCTS, INC.** Michael Decker, 24 North Front Street, New Bedford, MA 02740. Phone 800.831.1801 B000A

**SIPI METALS CORPORATION**, Mike Smith, 1720 North Elston Avenue, Chicago, IL 60622-1579. Phone 800.621.8013 B000A

**SPECIALLOY, INC.**, Karl P. Lebert, Jr., 4025 South Keeler Avenue, Chicago,

assist the moldmakers, molders and manufacturers to improve the processing of plastic materials.

The task group, supported by the trade associations of the copper industry, is dedicated to research and disseminating the information you need to take advantage of the superior performance of molds containing copper-alloys. Also, the association is dedicated to developing an infrastructure of copper producers, fabricators, suppliers and mold makers who are in the plastics chain.

Research work, performed at Western Michigan University, is conducted to address technical issues and remove barriers to the use of copper alloys for plastic processing. The development of these Injection Mold Design Guidelines is a result of this research and in addition to empirical data derived from

IL 60632. Phone 773.376.0100 B000A

#### FABRICATORS

**NONFERROUS PRODUCTS, INC.**, Denis B. Brady (1999-2000 Chairman of the Task Group), 401 East 14th Street, Franklin, IN 43131. Phone 800.423.5612 B000A

**PERFORMANCE ALLOYS & SERVICES, INC.**, Cliff Moberg, N116 W18515 Morse Drive, Germantown, WI 53022. Phone 800.288.7747 B000A

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*Continued*

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**COPPER & BRASS SALES, INC.** John M. Perryman, Jr. 400 Renaissance Center, Suite 1800, Detroit MI 48243. Phone 313.566.7425 B000A

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**RESEARCH UNIVERSITY**

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**WISCONSIN WIRE WORKS INC**, Carl W. Dralle, 17975 Continental Drive, Brookfield, WI 53045. Phone 414.781.1042 B000A

For information regarding participation in THE COPPER-ALLOY MOLDS MARKETING TASK GROUP, contact: Dr. Dale Peters at 800.232.3282. B000A



industry applications. Several molds, funded by the task group, were built and tested to conduct research under actual production conditions. One studied the cycle time advantage the copper alloys offered over traditional mold steels. Additionally, due to the superior thermal conductivity of the copper alloys, part quality improvements including less warpage, better dimensional stability and more uniform mold temperatures resulted. Other research and testing concentrated on eliminating mold sweating under humid operating conditions. This is accomplished by running higher mold operating temperatures with copper alloy mold cores. The test results prove that better part dimensional stability can be obtained at shorter mold cooling times without mold sweating when compared with mold steels.

**Exhaustive wear study is under way**

An exhaustive wear study is under way testing the effects of electroless nickel, hard chrome, titanium nitriding, thin dense chrome and thin dense chrome with diamond particulate in extending the mold life of the copper alloys.

As a service to the plastics industry, the Task Group is funding the publication of these

guidelines in Modern Mold and Tooling. The greatest benefit to the people who deal with molds and molding will be to collect each issue to use as a reference in both the applications of the copper alloys and the mold design principles.

**Subjects for the Injection Mold Design Guidelines will include:**

1. Sprue Bushings and Runner Bars
2. Mold Cores, Core Pins and Chill Plates
3. Mold Cavities and "A" Side Inserts
4. Slides, Lifters and Raising Mold Members
5. Ejector Pins, Ejector Sleeves and Ejection
6. Mold Temperature Control Systems, Bubblers, Baffles, Diverters and Plugs
7. Wear plates, Slide Gibs, Interlock Plates, Leader pins and Guided Ejector Bushings
8. Plating and Coating of Copper Alloys
9. Application of Copper Alloys in Injection and Blow Molds

These guidelines will include properties of the various copper alloys most commonly utilized for their thermal and bearing properties, compared with traditional mold steels. Charts, graphs, formulas and descriptions will provide the user with pertinent data not available from other sources. ■