IN THIS ISSUE

TECHNOLOGY/INDUSTRY NEWS

Domtar Sells Metal Powder Division ..................................................... 95
Lovejoy Joins In-Plant Ranks ........................................................... 95
IPM Moves Headquarters ............................................................... 95
New HIP Technique For Smaller High Alloy P/M Parts ......................... 96
Indian Company Offers P/M Tooling Service ............................................. 96
Greenback Introduces Barium Ferrite Powder Grade .............................. 96
BTU Introduces Walking Beam Furnace ................................................. 96
New Wear Resistant Aluminum ......................................................... 96
Glidden Earns Energy Award ........................................................... 97

APMI/MPIF NEWS

MPIF Wraps Up Management Conference Program ...................................... 97
P/M Tooling Seminar On November 10 & 11 .............................................. 98
1977 National P/M Conference .......................................................... 98
Successful Membership Campaign Concluded ........................................... 99
Canadian Section Post Largest Membership Increase ............................ 99
P/M Related Patents ................................................................... 99

PEOPLE IN THE NEWS

Bradbury Appointed To Top APMI Spot ................................................. 100
Gulf+Western Revamps Metals Operations ............................................. 101
Humpert Joins Black & Decker ........................................................... 101
Stellite Appoints Hard Facing Operations Manager ............................... 101
Domtar Sells Metal Powder Division

Domtar Chemicals Limited has sold its metal powders division to Domfer Metal Powders Ltd., a privately held company formed for the acquisition. President of the new firm is Giancarlo Mantegazzini.

Domfer operates two plants in the Montreal area. The sale does not include Domtar's Ridgway, Penna. iron powder unit closed several years ago because of a fire.

Domfer's annual iron powder production capacity is 11,000 tons. The new management hopes to expand capacity sometime in the future. Steve Cowan, general manager, Everett R. Magnusson, sales manager and other executive personnel will stay on board.

Domfer will be temporarily located at Domtar headquarters but plans to move to new offices in Montreal by year's end.

Lovejoy Joins In-Plant Ranks

The newest entry into the in-plant P/M business is Lovejoy Inc., Downers Grove, Ill., a manufacturer of couplings for power transmission equipment. Lovejoy will make about 80 percent of its P/M requirements. When in full production, annual powder usage will exceed 500,000 pounds.

Lovejoy will make eight basic sizes of P/M copper-steel coupling hubs, but will purchase larger or special hubs from outside P/M parts vendors.

Production equipment includes a 75-ton mechanical compacting press and a 150-ton hydraulic press and one sintering furnace.

IPM Moves Headquarters

IPM Corporation, an Allegheny-Ludlum Industries Company, has combined administrative and sales activities at its Columbus, Ohio plant, now division headquarters.

The address and new phone number are: IPM Corporation, 2100 Advance Avenue, Columbus, Ohio 43207; (614) 443-4833.

The company has other plants in Ridgway, Penna. and Twinsburg, Ohio.
### New HIP Technique For Smaller High Alloy P/M Parts

Powder-Tech Associates and Gorham International are offering a multi-client research study to develop a technique for making smaller high performance alloy P/M parts by hot isostatic pressing (HIP). The program is aimed at eliminating the canning step in HIP by making preforms having no surface connected porosity. Preforms will be made by conventional compacting and sintering, either uniaxial or cold isostatic pressing, and then HIPping.

P/M tool steels, titanium, stainless steel alloys and superalloys will be evaluated first. Parts will be under 10 pounds.

Powder-Tech and Gorham are looking for 20 sponsors to fund the two-year $340,000 project. Each sponsor will pay $8500 per year. An orientation meeting will be held October 5 at the Hilton Inn, Logan Airport, Boston, Mass.

Contact Dr. Leander F. Pease III, Powder-Tech Associates Inc., 19 Grant Avenue, Burlington, Mass. 08103; (617) 273-0530.

### Indian Company Offers P/M Tooling Service

Mahindra Sintered Products Ltd. offers a tooling service to U.S. P/M parts fabricators.

The largest manufacturer of P/M parts and bearings in India, the firm's tool room is available for contract work for carbide and tool steels. Delivery on steel tooling runs eight to ten weeks, with carbide delivery 18 to 20 weeks. Mahindra currently exports tooling to the United Kingdom and Australia.

Contact P. S. Mahindra, executive director, Mahindra Sintered Products Ltd., 146, Bombay-Poona Road, Pimpri, Poona 411 018, India.

### Greenback Introduces Barium Ferrite Powder Grade

Greenback Industries has a new barium ferrite powder, RM-500, designed for high-energy ferrite magnets.

The magnetically hard ferrite powder is formulated to permit direct use in the fabricator's wet-milling operation.

Contact C. R. Jetter, manager, Ferrite Sales and Production, Greenback Industries, Inc., Box 63, Greenback, Tenn. 37742.

### BTU Introduces Walking Beam Sintering Furnace

BTU Engineering Corporation has designed an 18 inch electric walking beam sintering furnace. It can handle up to 750 pounds of P/M parts per hour and has a maximum temperature rating of 2400 F in endothermic atmosphere.

The furnace has independent burn-off sintering sections and water-cooled chambers. Each heat zone is controlled by precision solid state instruments, reports BTU. An atmosphere control system provides separation between burnout and high heat sections to keep high heat zones contamination free.

Contact Dave Barry, BTU Engineering Corporation, Esquire Road, North Billerica, Mass. 01862.

### New Wear Resistant Aluminum

Alcan Aluminum has developed a wear resistant P/M aluminum containing DuPont's Tribaloy intermetallic alloy compositions.

Alcan reports that P/M aluminum/Tribaloy parts show a 70% improvement in wear resistance over standard P/M aluminum parts in bearing
tests using water as a lubricant. The composite material has friction characteristics similar to P/M bronze parts, it is claimed.

Wear resistance and reduced friction are combined with aluminum's light weight, high heat conductivity and corrosion resistance. Ten percent by volume of Tribaloy is added to the aluminum alloy powder. Called MD91, the powder sells for $4.65 per pound.

Markets for the new product include the aerospace, appliance, automotive, business machines, and textile machinery industries.

Contact Alcan Metal Powders Division of Alcan Aluminum Corp., P.O. Box 290, Elizabeth, N.J. 07207.

Glidden Earns Energy Award

The Glidden Metals plant in Johnstown, Penna., received an Industrial Energy Conservation Award from the Peoples Natural Gas Company for cutting gas consumption by more than 25% during the past two years.

James E. Nicholas, manager of engineering and project engineer James E. Myers were cited for directing the program. The Johnstown plant has 130 employees who manufacture iron, copper and stainless steel powders.

Some of the steps taken to cut gas consumption were: replacing a heating boiler with radiant gas heaters, using a low heat transfer insulation, providing a dual fuel facility for the current boiler heat system, improving ventilation and dust collection, and calibrating plus periodic checking of furnace burners for proper air/gas ratio.

APMI/MPIF NEWS

MPIF Wraps Up Management Conference Program

MPIF's Fall Management Conference, October 17-21, at the Wigwam in Litchfield, Ariz., will feature a meaty program of management oriented subjects of special interest to P/M industry executives.

Presidents of metal powder, P/M parts, equipment, refractory metals and in-plant associations will deliver reports on developments within their sectors of the industry. Dean Stenberg, a noted economist, will talk on cycle forecasting and Richard P. Simmons, president of Allegheny-Ludlum Steel Corporation will discuss his company's multi-involvement in the P/M field.

In a panel session, chaired by Cabot's Jack Smythe, experts from the Air Force Materials Laboratory, General Electric Company, McDonnell-Douglas Aircraft, Pratt & Whitney Aircraft, and Wmman-Gordon will review the Current Commercial Status of P/M High Performance Materials. In another panel, Gene Baynes, of the Delco Moraine Division of GMC, will direct a session on the Current Commercial Status of P/M Hot Forming. The panelists are: Harry Antes, Hoeganaes Corporation, Richard M. Szary, Federal-Mogul Corp. and John J. Littley, Cincinnati Incorporated.

A special report will also be given on "How to Cope with Product Liability as it Applies to the P/M Industry".

MPIF Associations will hold business meetings. Attendance at the Conference is limited to official representatives and employees of MPIF member companies.
The Powder Metallurgy Equipment Association will sponsor a seminar on tooling for P/M parts and products on November 10 & 11, 1976, at the William Penn Hotel, Pittsburgh, Penna. Leonard L. Confer of National Carbide Die Company is program chairman.

The following subjects will be covered:

...The Role of Tooling in Powder Metallurgy,
  L. Confer, National Carbide Die Company

...Tooling for Hydraulic Compacting Systems,
  L. Humpert, Black & Decker Mfg. Company

...Tooling for Mechanical Compacting Systems,
  T. Mulcavage, AC Compacting Presses, Inc.

...How to Select the Proper Tool Steels for Powder Metallurgy,
  A. Bayer, Teledyne Vacas

...Tooling for Anvil Pressing,
  R. DeSantis, Pentronix Div., Wolverine Aluminum Corp.

...Proper Heat Treatment and Hardening of Tool Steels,
  (Speaker to be announced)

...Determination of Tooling Tolerances and Clearances,
  G. T. Perelli, Major Gauge & Tool Co.

...EDM and EDM Wire Feed
  O. Gurney, Elox Div., Colt Industries

...Tooling for P/M Hot Forming Systems,
  R. Halter, Cincinnati Inc.

Included in the seminar will be a tooling applications panel covering:

...Bevel gears - C. Nalepa, Monarch Tool & Gauge Co.
...Spur gears - R. Plaster, Sealed Power Corp.
...Helical gears - L. Winslow, Merriman Inc.
...Other structural P/M parts - F. Leone, Pitney-Bowes Inc.

The program will also feature tours of the National Carbide Die Co., McKeesport, Penna. and the Carbide Div. of Aiken Industries, Inc., Irwin, Penna.

The tuition fee for employees of MPIF member companies is $175; tuition for others is $225.

A registration form and other details are included in another section of this Newsletter.

1977 National P/M Conference

APMI members wishing to present a paper at the 1977 National P/M Conference should submit a title and one-page abstract to the program committee as soon as possible. The Conference will be held at the new Detroit Plaza Hotel, Detroit, Mich., May 24-26. The theme is "Automotive P/M Applications, Processes and Materials".

Technical papers will cover the following subjects:

...P/M in Automotive and Related Applications
...Nonferrous P/M Applications
...P/M Tooling Materials and Machinability
...New Research Developments at Colleges and Universities

Paper suggestions should be mailed to Thomas W. Pietrocin, IPM Corporation, 2055 Enterprise Parkway, Twinsburg, Ohio 44087.
Successful Membership Campaign Concluded

APMI's 10 month incentive membership campaign attracted 314 new members to the fold. Together with those who joined during P/M '76 APMI membership has now topped 2000.

Ed Thellman of Gould Laboratories in Cleveland, won the grand prize in the color TV set drawing. He sponsored five new members. The set was donated by GTE Sylvania Inc.

Canadian Section Posts Largest Membership Increase

The Canadian Section won the local section competition by scoring a 36.3 percent (42 new members) increase in membership. Second and third places went to the Penn-York and Cleveland Sections with increases of 36 percent and 24 percent, respectively.

For its efforts, Canada will receive five Panasonic tape recorders and $100 in cash. Penn-York and Cleveland will also receive prizes.

P/M Related Patents

The following U.S. patent abstracts dealing with P/M technology, developments have been prepared by Eugene K. Kalil, 60 East 42nd Street, New York, N.Y. 10017:

U.S. Pat. No. 3,907,566
David J. Port et al
MOLYBDENUM FLAME SPRAY POWDER AND PROCESS
Assigned to GTE Sylvania Incorporated

The bulk density of a flame spray powder of agglomerates of finely divided molybdenum or molybdenum alloy particles is increased by adding from 0.1 to 0.5 weight percent of finely divided nickel particles to the agglomerates and heating the agglomerates at a temperature of from 1050°C to 1300°C for from 1 to 7 hours, resulting in increased flame spray coating rates due to the increased weight of metal sprayed per unit of time.

U.S. Pat. No. 3,909,241
Richard F. Cheney et al
PROCESS FOR PRODUCING FREE FLOWING POWDER AND PRODUCT
Assigned to GTE Sylvania Incorporated

Free flowing powders such as for flame spray applications are produced by agglomerating finely divided material, classifying the agglomerates to obtain a desired size range, entraining the agglomerates in a carrier gas, feeding the agglomerates through a high temperature plasma reactor to cause at least partial melting of the particles, and collecting the particles in a cooling chamber containing a protective gaseous atmosphere, wherein the particles are solidified.

U.S. Pat. No. 3,909,309
Michael James Bomford
POST WORKING OF MECHANICALLY ALLOYED PRODUCTS
Assigned to The International Nickel Company, Inc.

The patent states that special post extrusion working of mechanically alloyed superalloys dispersion-strengthened with an oxide of a lanthanide series metal results in improved stress-rupture properties.
People in the News

Bradbury Appointed
To Top
APMI Spot

Samuel Bradbury becomes the Institute's eighth President, appointed to a two-year term of office by the Board of Directors. He is manager of sales promotion and advertising of Hoeganaes Corporation, Riverton, N.J. He succeeds Walter V. Knopp, P/M consultant, Wyckoff, N.J.

A charter APMI member, Mr. Bradbury has been active in the Institute and industry activities. He is past chairman of the Philadelphia Section and one of its founders. He received the MPIF Distinguished Service Award in 1972.

Mr. Bradbury was a geology major at Lehigh University. He began his career in 1939 as a service engineer with the F.J. Stokes Corporation. He joined Hoeganaes in 1960 as a manager of sales engineering.

New APMI President Samuel Bradbury
Gulf+Western Revamps Metals Operations

Gulf+Western Industries, Inc. has restructured its metals operations into the Natural Resources Group, that will include the following divisions: The New Jersey Zinc Division; the Titanium Division; the Metals Division; and the Coal Division. Bethlehem, Penna. is the group’s headquarters.

Richard W. Hogeland, formerly president of the New Jersey Zinc Company, has been named chairman and chief executive officer of the group. Lawrence S. O’Rourke has been named president of the NJZ Division.

Gary A. Wickham has been named director of marketing for the Zinc Division and will be responsible for metal powders, slab and rolled zinc, zinc dust and cadmium.

Martin E. Ness was named product manager and will be directly responsible for rolled zinc, super plastic zinc and metal powders. He is now the key metal powder man at NJZ.

Humpert Joins Black & Decker

Lee Humpert has joined Black & Decker Mfg. Company, Hampstead, Maryland as a manufacturing project engineer responsible for P/M operations.

Black & Decker’s P/M in-plant department specializes in making steel gears for power tools.

Mr. Humpert was formerly general manager of Alpha Press Company, Alpha, N.J.

Stellite Appoints Hard Facing Operations Manager

William F. Slade has been appointed general manager of hard facing operations at the Stellite Div., Cabot Corp., in Norwalk, Calif. He will manage marketing and manufacturing operations for the company’s hard facing business.