57-40

NEW MATERIALS NEWS

ISSUED BY VALUE ANALYSIS SERVICE
MATERIALS SERVICES SCHENECTADY, NEW YORK

July 1957

METAL AND METAL PRODUCTS

High-Temperature Alloy

Iron, nickel, chromium, and in smaller proportions molybdenum, titanium, and boron make up a high-temperature alloy used for jet engines. Heated to 1200°F and subjected to 75,000 psi stress, test samples of the new alloy stood up for as much as 300 hours without breaking. Standard turbine disc materials under equivalent conditions probably would have a lifetime of less than ten hours. This alloy is similar to the new GE 1300 which will be announced in October.
(Westinghouse Electric Corp., Merchandise Mart, Chicago 54, Illinois)

Fluxless Aluminum Solder

A fluxless aluminum solder is being offered as having high tensile strength and doing away with galvanic action between solder and base metal. The alloy is to be rubbed on without a flux and has been developed at the request of manufacturers of aluminum products. To obtain the best bond with this material, the base metal should be clean and heated enough to melt the solder when it is rubbed on the surface. This tins the surface, and joining is accomplished by heating two tinned surfaces held together. The solder is available in rods of 1/8 by 18".
(All-State Welding Alloys Co., Inc., 249-55 Ferriss Ave., White Plains, N. Y.)

Alite-Sintered Aluminum Oxide

An extremely interesting product which has superior characteristics--Alite--can be extruded, pressed, molded, or cast and can be precision finished. Excellent for critical electrical applications, its diamond-like hardness, abrasion resistance, and physical strength at working temperatures above 2000°F have proven highly successful in such uses as rotating seals, pump plungers, slide valves, bearings, bushings and extrusion dies.
(U. S. Stoneware, Akron 9, Ohio--ask for Bulletin A-7)

Tin Coating

A bright tin coating can be obtained by adding a small amount of wood tar to tin plating solutions, according to Tin Research Institute.
(Article in London Financial Times, April 12, 1957, page 11)

Stainless Steel Fasteners

Type H Pushnut fasteners for unthreaded studs of diecast nameplates, medallions, grilles and ornaments are available made of 410 stainless bright hardened steel, for applications requiring a high degree of corrosion-resistance. The stainless steel fasteners permit fast assembly with hand or power tool applicators. Sizes are available for 1/16, 3/32 and 1/8" studs. Four gripping teeth hold tight even on hard or slippery plated studs.
(The Palnut Co., Glen Road, Mountainside, N. J.)

Titanium Screws

It is now possible to produce titanium screws, nuts, bolts, and wood screws, as well as small valves and fittings by using a series of new cutting tools especially adapted to machining titanium.
(Beaver Tool Co., R. D. #2, Beaver, Pennsylvania)

Prehardened Die Casting Steel Requires No Heat Treatment

A prehardened die casting die steel, called Viscount 44, is stocked and furnished at a hardness level of Rockwell C 42 to 46 and requires no further heat treatment after machining. This factor gives the steel an advantage when used for die casting dies since heat treatment and the resulting hazards of size change and distortion are eliminated. Machinability of the material in its prehardened state is made practical through the addition of evenly dispersed sulphide particles to the steel. Basically, the product is in an H-13 type, 5 per cent chromium hot work steel with free-machining sulphide additives. It contains 1% vanadium which increases its resistance to wash and heat checking and imparts superior properties at elevated temperatures.
(Latrobe Steel Co., Latrobe, Pa.)

Glass-Clad Copper Wire

Glass-clad copper wire consisting of an oxygen-free high-conductivity copper core with a glass-sealing alloy seamless sleeve is said to have up to three times the electrical conductivity of solid alloy wire. The outside layer of the clad wire can be #52 alloy (50 per cent nickel, iron alloy), Type 446 stainless, or SAE 1010. Applications for the copper cored glass-sealing alloy wire include glass-to-metal seals for terminals and terminal blocks, hermetic seal headers for unit terminals, switches, relays, coils, capacitors, rectifiers, transformers and potentiometers. The wire is supplied in coils in diameters from 0.010 to 1/4" and is also produced in straight random lengths from 6 to 9 feet and also in rod sizes. Weight per coil is approximately 7 to 8 lb.
(General Plate Div., Metals & Controls Corp., Attleboro, Mass.)

Expanded Metal Shapes Present Small Openings

Ultra-small expanded metal, called Micromesh, is available with openings as small as 1/16 of an inch to 2-1/2 inches. Along with this development comes the ability to produce expanded metal in aluminum in any color. Diamond shapes are the basic pattern but square and tear drop openings are in the development stage. Both standard and flattened versions are produced.
(Designers Metal Corp., 516 E. 159th St., Harvey, Illinois)

Aluminum Casting Alloy Offers Weight Saving

The 42B, a high-strength aluminum casting alloy can be used in either permanent or sand molds. A part cast of this alloy has a tensile strength of 42,000 psi., when a sand mold is used. The use of a permanent mold increases the tensile strength to 45,000 psi. It is said the alloy can be cast in sand or permanent molds by any foundry using ordinary methods.
(North American Aviation, Inc., International Airport, Los Angeles 45, Calif.)

Self-Annealing Solder

A self-annealing tin base solder, #38 alloy, offers high creep strength and lower temperature application. Test data is said to indicate that this material gives additional strength, lessens excessive heat distortion and lowers conductivity problems caused by oxide films produced from brazing fluxes. The alloy is available in diameters of 0.032 to 0.125.
(Alpha Metals, Inc., 56 Water Street, Jersey City, N. J.)

Conversion of Steel Machining Chips Into Parts

Steel machining chips which are crushed, washed and cold compressed into a blank slug, then heated to 1500°F, can then be extruded directly into the desired part shape. Physical properties of such parts closely approach those made from mill-processed steel. These compressed chips and the "cookie cutter" or "steel rule" process of making blanking dies may play a big part in industry in the future. The die is made by bending steel rule to shape and mounting it in a plywood base. All types of sheet (from thick paper to 3/16" steel) can be blanked on this die without removal from the press.
(Article in American Machinist Magazine, April 8, 1957, p. 160)

CHEMICALS

Non-Inflammable Paint Remover

A non-inflammable paint remover has been developed to clean coats of paint, varnish and lacquer from wood and metal. After the product is applied, paint may be washer away within 15 to 30 minutes by directing a strong spray of water on the coated surface. The remover leaves a residue to interfere with drying of subsequent paint coatings. It is obtainable in pint, quart and gallon containers.
(Pittsburgh Plate Glass Co., 632 Ft. Duquesne Blvd., Pittsburgh 22, Pa.)

Polyethylene Parting Agent

A polyethylene parting agent is available for use in loosening plastic and rubber-molded products. The product consists of a solution of low-molecular weight polyethylene in a mixed solvent system. It is supplied in aerosol form using Genetron as a propellant. The parting agent is stored in a heavy-walled container designed to hold pressurized gases and liquids. The domed container top has an atomizer valve actuated by finger tip pressure and is protected by a removable metal cap.
(Barrett Div., Allied Chemical & Dye Corp., 40 Rector St., New York 6, New York)

High Temperature Epoxy Compounds

A new line of high-temperature epoxy resin compounds is being offered with heat distortion temperatures that are said to be the highest ever recorded for epoxy resin systems. Thermal stability studies indicate the new formulations fall in the electrical Class B plus and Class H insulation range. New formulations are available as two-component, indefinitely stable, systems giving mixed viscosities from 40 to 100 poise at room temperature. Elevated temperature is not required for mixing; pot lives at ambient are in excess of 16 hours. A stage cure of 250-350 F for 6 hours is sufficient to yield optimum high-temperature properties. Special flexible, 100% solids B-staged coated glass tapes and cloths are available for laminate work. These are shipped under refrigeration.
(The Epoxylite Corporation, 10829 East Central Ave., El Monte, California)

Dry Chlorine Product

Recently announced is HTH, a dry calcium hypochlorite which contains 70% available chlorine. It provides an easy, efficient, economical way to convert toxic cyanide to relatively harmless cyanate. Since the disposal of cyanide wastes presents an increasingly serious problem as the need for protecting streams from pollution has become more widely recognized, operators of metal processing plants, public health officials and sanitary engineers are all vitally concerned with the presence of poisonous cyanide in plant wastes.
(Olin Mathieson Chemical Corp., Industrial Chemicals Division, Baltimore 3, Md.)

PLASTICS

Corrosion Resistant Lining Material

Corrosion resistant lining material to protect the metal components of chemical process has been developed. Called Saraloy 898, the product is an elastomeric copolymer based on vinylidene chloride. It is a flexible thermoplastic said to have extraordinary resistance to a broad range of acids, alkalis, salt solutions and solvents commonly encountered in processing tanks, pipes and fittings, fume ducts, and hoods.
(Dow Chemical Co., Midland, Michigan)

Black Nylon Washers

Black nylon washers are being offered in five sizes. Intended for use wherever the dielectric and other properties of nylon are desired, they are manufactured to fit screws from a #4 to a 1/4". Outside diameters range from 9/32 to 11/16" and thicknesses from 0.020" to 0.040".
(Weckesser Co., 5701 Northwest Highway, Chicago 30, Illinois)

Plastic Foam Packaging

A rigid polystyrene foam featuring lightweight and high rigidity is offered for packaging uses. The plastic material has low thermal conductivity and low moisture absorbent qualities. It can be fabricated or molded in a variety of shapes and sizes and is available in solid white, red, green and blue colors.
(Schwab Plastics Corp., 730 South Dix Ave., Detroit 17, Michigan)

Sprayable Plastisol Finishes

A series of sprayable plastisol finishes has been developed for use on all types of manufactured metal goods production machinery and castings. The vinyl coatings can be applied to any metal surface by standard spray finishing apparatus. These products are unaffected by cold, heat, salt air and water. They are moisture resistant and possess good weathering qualities. The finishes are available in a complete range of standard colors. Electrostatic or conventional spray finishing equipment may be used to apply the finishes after which the coating is cured.
(Chemical Div., Auburn Button Works, Inc., Auburn, N. Y.)

New Phenolic Compounds

Molded appliance parts which withstand boiling water and oven-hot temperatures can be molded from new phenolic compounds GE-12980 and GE12981. GE-12980 produces satin-finished parts which can withstand temperatures up to 500°F. The new high-heat resistant powder can be molded under temperatures ranging from 300° to 370° F, using standard molding pressures. Suitable for use in either cold-powder or pre-heated pill molding, GE-12980 offers low shrinkage and minimum thermal expansion. Its unusually high-heat resistant properties and satin-smooth finish suggest use in skillet and other appliance handles, coffee pot bases and all applications where temperature requirements are critical. GE-12981 is a medium heat-resistant material. Engineered to resist temperatures up to 400° F, it is suggested for industrial applications such as circuit breakers, cord connectors and thermostat knobs where strength and easier moldability are required. The low specific gravity of both materials has combined with rapid cure, fast pre-heat cycles and good dimensional stability to demonstrate appreciable molding economies in early field trials.
(Chemical Materials Dept. - General Electric Co. - One Plastics Ave., Pittsfield, Mass

Fused-Film Wire Coating Increases Dielectric Strength

A 0.002" thick film wire insulation increases dielectric strength and scrape resistance. The continuous seam-free coating is of Dupont Teflon. The fused-film wire coating process converts Teflon tape into a concentric film coating. Tests performed on the new wire coating indicate that it remains stable at temperatures from -200F to 500F while withstanding 6000 v without breakage. In addition, the wire is resistant to water, chemicals and fungus.
(Adam Consolidated Industries, Inc. New York, New York)

Acrylic Resin

DuPont Lucite 140 acrylic resin is now commercially available in a formulation which permits molding temperatures 30° to 50° F. higher than previously possible with any acrylic resin. The new upper molding limit presents certain advantages in injection-molding operations, such as increased fluidity during processing and increased stability after processing. All other physical properties are unchanged, as this improvement is in stability of material at molding temperatures rather than in formulation of a completely new resin.
(E. I. DuPont de Nemours & Co., Inc., Wilmington 98, Delaware)

Polyethylene Resin

A new polyethylene resin, "Alathon" 31, tailored for use in making heavy sheet for thermo-forming, gives manufacturers a composition which has a high enough viscosity to resist sagging during the preliminary heating step of the thermo-forming process, yet is still easily extruded into sheet and shaped into finished parts when drawn down over the thermo-forming mold. "Alathon" 31 has a melt index of 0.6 and a density of .930. Parts made of "Alathon" 31 have glossy surfaces and are said to be resistant to environmental stress cracking. They are also said to be essentially free of taste and odor and completely non-toxic.
(E. I. DuPont deNemours & Company, Wilmington, Delaware)

Rigid & Semi-Rigid Urethane Foams

DuPont's Urethane Foams are new materials of construction. They offer opportunities-- not possible with any other material for new designs and product developments -- assembled products used for... structural reinforcement, thermal insulation, vibration dampening, and sound absorption. Urethane can be foamed in place without heat or pressure and are self-adhering to most surfaces. Good resistance to chemicals and solvents, water impermeability, age resistant, and operate in temp. -100 to 250 F. Suggested end uses are for refrigerators and freezers, storage tanks, maintenance, piping, packaging, air conditioning cabinets, potting, aircraft, trains, and sandwich type panels.
(Elastomer Chemicals Dept., E. I. DuPont deNemours & Co., 1007 Market St., Wilmington 98, Delaware)

Packaging Films

Besides the heat-shrinkable Mylar, other new packaging films recently introduced by duPont were a non-fogging, polymer-coated cellophane (K-2 0 3, which resists wrinkling, oil and greases, and is impermeable to gases) and a polymer-coated Mylar which will allow heat sealing.
(Article in Chemical Week Magazine, April 20, 1957, p. 113)

External Metallizing Process For Molded Plastic Parts

A decorative top surface metallizing process provides a finish that looks and acts like metal plating. According to the manufacturer, the finish will not tarnish, pit or rust and maintains its brilliance under adverse conditions. In achieving the effect, an evaporated metal film is deposited on a specially developed, firmly adherent, tough undercoat and is then protected by a clear mar-resistant topcoat.
(Erie Plastics Div., Erie Resistor Corp., Erie, Pa.)

Epoxy Resins

Two epoxy resins, #621 and #623, are available for use in the embedment of transformers, coil windings, amplifiers and other electrical and electronic components. High fluidity and low surface tension are said to allow bubble-free impregnation. Mixed with appropriate hardeners they can be oven-cured in a few hours.
(Marblette Corp., 37-31 Thirtieth St., Long Island City 1, N. Y.)

Copper-Clad Laminated Plastic

The new Cirprint is said to be the first copper-clad laminated plastic especially designed for large-volume manufacturers. It is said to have high IR (250,000 megohms after 96 hours at 35C and 90% RH), it can be cold punched up to 1/16", and has low moisture absorption.
(Article in Business Week, April 6, 1957, p. A25.)

Plastic Tool Improvement

Alloyed resin technique improves plastic tools, and dies. Versamid resins were applied successfully in a drop hammer die, checking fixtures, and chuck jaws where they modify the more common epoxy resins to permit better control over properties of the tooling plastics.
(Article in American Machinist Magazine, April 8, 1957, p. 164.)

FABRIC AND PAPER PRODUCTS

Insulating Materials

The development of nylon, "Dacron"* Polyester fiber, "Orlon"* acrylic fiber and "Teflon"* tetrafluoroethylene fiber has opened new roads for fiber insulating media. These fibers with their over-all properties of low moisture absorption, chemical resistance, high temperature resistance, and strength have made them interesting insulation candidates.
*DuPont's registered trademark.
(E. I. duPont deNemours & Co., Inc., Wilmington 98, Delaware)

Reinforced Plastics

In the electrical industry, nylon fabric reinforced phenolic laminates are said to provide superior performance under wet or humid conditions. "Orlon"* acrylic fiber and "Dacron"** polyester fiber in combination with diallyl phthalate and epoxy resins, are also being used in printed circuit applications and electrical uses requiring maintenance of performance in wet or humid atmospheres.
*DuPont's registered trademark for its acrylic fiber.
**DuPont's registered trademark for its polyester fiber.
(E. I. duPont deNemours & Co., Inc., Wilmington 98, Delaware)

Filter Media

Filter media containing Dacron* polyester fiber, Orlon** acrylic fiber, "Teflon"*** tetrafluoroethylene fiber, or nylon give very good performance due to their unusual physical and chemical properties. Specifically, "Teflon" has the very best resistance to all chemicals and temperatures to 500°F. Nylon exhibits high strength as well as excellent resistance to abrasion and alkalies. Dacron possesses acid and alkali resistance, good strength, abrasion resistance, and withstands dry heat to 350°F. Orlon performs well in the presence of acids, even at temperatures to 300°F.
* - ** - *** DuPont's registered trademarks.
(E. I. duPont deNemours Co., Inc., Wilmington, Delaware)

Synthetic Fiber Paper

The development of papers from synthetic fibers gives the engineer new tools in designing equipment that is compact and that is capable of operating at higher temperatures. These papers should offer improved economics and performance. A wide range of thickness in papers made from 100% synthetic fibers and in blends with pulp are now available for laboratory investigation.
(E. I. duPont deNemours Co., Inc., Wilmington, Delaware)

Glass-Reinforced Teflon Resists High Temperatures

Combining elements of fiber glass and Teflon, Korda Flex is highly resistant to chemicals and solvents, temperature extremes and maintains a high degree of dimensional stability and mechanical strength, according to the manufacturer. The material is available in tapes, sheets and rolls to 38" wide, in 0.003, 0.005, 0.010, and 0.015" thicknesses. It is also offered in fabricated form in belts, pads or other shapes produced by die cutting, heat welding or stitching with Teflon thread.
(Chicago Gasket Co., 1271 W. North Ave., Chicago 22, Ill.)

New Synthetic Fiber

Rilsan, the new synthetic fiber made from castor oil, has been introduced on the United States market at a price which is said to be competitive with nylon. It is manufactured in Italy by Snia Viscosa.
(Article in New York Times, April 8, 1957, p. 1.)

Another New Synthetic Fiber

Papertex, which is made of nylon woven as a loose fabric and filled with a resin and heat treated for stability, is said to be a durable, parchment-like material which could be used for maps, charts, passports, etc. It reportedly cannot be ripped, is impervious to salt water and cannot be damaged by insects. Tests showed it can be folded 70,000 times without cracking.
(Article in New York Times, April 11, 1957, p. 45)

MISCELLANEOUS

Electronic Color Photography System

An electronic color photography system that would provide permanent prints of pictures taken less than five seconds earlier at points thousands of miles away was predicted by RCA official. "We can now foresee future systems in which TV cameras, magnetic recording equipment, and electronic printing techniques will be linked to provide versatile high-speed chains, "according to the company.
(Radio Corp. of America, 30 Rockefeller Plaza, New York 20, New York)

Seelscrews

Seelscrews are single-unit,vibration-resistant fasteners, designed for panels and motor housings. They are grooved under the head and have a rubber O-ring pressed into the groove. They will seal in excess of 500 psi., both internal and external pressure. They maintain their seal even after frequent removals.
(Automatic & Precision Mfg. Co., 252 Hawthorne Ave., Yonkers, N. Y.)

Molded Electrical Components

A very complete line of quality brushholders, brush caps, and molded commutators are available from stock molds.
(Midwest Molding & Mfg. Co., Gurnee, Illinois)

Benelex "30" - Die Stock Laminate

A masonite die stock laminate developed to meet the demand for a light weight durable and economic panel material to be used in fabricating sheet metal and thermoplastic sheets. Other suggested end uses are for jigs, fixtures, dies, patterns, and templates.
(Masonite Corp., 111 W. Washington Street, Chicago 2, Illinois)

Production Recording System

A new link in efficient industrial data handling, IBM Automatic Production Recording Systems consist of standardized components designed to automatically collect, correlate, store, and record production data from suitable measuring instruments. Production variables such as weight, quantity, dimension, pressure, temperature, and time are programmed for automatic collection. These with related information which identify the process and product are automatically recorded in printed reports, punched paper tape, or punched cards. Inherent flexibility in the modular design of APR systems makes them adaptable to many types of industries and their production recording needs.
(International Business Machines Corp., 590 Madison Avenue, N. Y. 22, N. Y.)

Gasketing Materials

Gasketing materials with more flexibility, ease of application, and increased durability have been developed. Unlike most asbestos fiber gasketing materials, sharp bending will not cause the new materials to pipe or crack. This allows for clean die-cutting operations because there are no loose fibers to become detached.
(Armstrong Cork Co., Lancaster, Pennsylvania)

Two Adhesive Products

Better adhesion for plastics to metals is offered by the introduction of two improved adhesive products. One, a cement, is for bonding semi-rigid vinyl to a wide range of metal and other materials. The other, a primer, improves bonds between plastisols and organosolx to metals. The cement adhesive may be applied to the metal by roller coat, spray, brush or dip. The primer may be applied by using conventional methods of application either with a pre-bake of the primer or with normal drying before coating.
(Comp Chemical Co., Inc., 125 Roberts Rd., Waltham 54, Mass.)

Electrical Heating Material

A high-temperature electrical heating and resistance material is designed for continuous element temperatures up to 2900F. The material consists of $MoSi_2$ and SiO_2 and is produced by a powdered metallurgical process. When used, it undergoes a self-sintering that increases hardness and strength and produces a durable element with high mechanical and electrical stability
(Kanthal Corp., Amelia Place, Stamford, Connecticut)

Leak Detector

A new paint that locates holes, cracks, and fissures causing leaks has been developed by Boeing Airplane Company. Any hole or flaw in an assembly or container through which a gas can pass can be detected immediately by this paint. The leak is marked by the paint for a long period of time and then easily removed by flushing with water, cloth wiping, or by air streams.
(Chemical Products Corp., 18504 38th Ave. S., Seattle 88, Washington)

New Horizons For Percussion Welding

A new method of percussion welding now permits welding relatively large cross sections of dissimilar metals using only 1/2 cycle of alternating current. This new method is called magna-flash welding and permits full area welds on materials that presently are brazed using a corrosive flux. Typical areas of potential use are welding large silver contact tips without annealing the support metal (which normally occurs during present brazing operations); welding Carboloy or high-speed cutting tips to machine tool shanks; welding the commutator leads to commutator bars for motor and generator applications without annealing the copper.
(General Engineering Laboratory, General Electric Company, Schenectady, N. Y.)

Miniature Magnetic Figure Counters

Miniature (approximately 1" cube 2 oz.) high speed (1200 counts per minute) magnetic figure counters with three or four additive or subtractive wheels with 6, 12, 24, or 110 volt coils are now available. They can be operated in vacuum tube plate circuits or any contacting device, with or without 3 ounce case, and can be manually reset.
(Abrams Instrument Corporation, 606 E. Shiawassee Street, Lansing 1, Michigan)

Ultrasonic Impact Grinding

Ultrasonic impact grinding has solved many problems in producing accurate narrow slots with square corners in comparatively thick materials from which hydraulic servo-mechanisms for aircraft and missile guidance systems are made. Demand today is for more accurate and sensitive control of flow rates in these precision devices which calls for narrow openings or ports in various configurations. A straight line flow through slots, some as narrow as .002- or .003-in. has been successfully developed. A machine capable of doing this is the Raytheon Model 2-332-2 with a dual abrasive unit which makes available two sizes of abrasive for instant use in roughing and finish grit sizes. Sleeves of stainless steel, either unhardened or hardened 58-62 Rc condition are easily cut on this machine -- an application which emphasizes an important benefit of this machine and the ultrasonic impact grinding process. This method makes it possible to process valve ports and sleeves of 52100 tool bearing steel or 440C stainless in the hardened condition after heat treatment.
(Weston Hydraulics, 10918 Burbank Boulevard, N. Hollywood, California)

Q-Clamps

A new and recommended technique for clamping and jacking through newly developed Q-clamps in sets to suit your needs are available.
(Techno Products, Inc., 1908 E. 66th Street, Cleveland, Ohio)

Miniature Markers

A new self-sticking miniature marker for identifying small diameter wires, miniature electronic components and sub-miniature circuits is being marketed which sticks and stays stuck to any size wire 5/32" and smaller, including plastic coated wires. The markers hug all wires, tightly, without curling or falling off, for the life of the installation. The 3/16" by 1/2" markers come printed in numbers and letters and are mounted 150 individual markers on handy Blue Streak (R) Dispenser cards for fast installation. They resist most solvents, grease, dirt, oil and abrasion; stay in place during and after fungiciding; and the adhesive remains pliable and durable at temperatures of -300°F to + 300°F.
(W. H. Brady Co., 727 W. Glendale Avenue, Milwaukee 9, Wisconsin)

Booklet On "Freon" Solvents

A 16-page technical booklet describing properties and applications of fluorinated hydrocarbon solvents (Freon) in industrial cleaning jobs, ranging from immersion and vapor cleaning of electrical motors and electronic equipment to general laboratory maintenance, is now available. The booklet contains data on comparative performance of the fluorinated compounds, chlorinated solvents like methyl chloroform, carbon tetrachloride, and trichlorethylene, and straight hydrocarbon solvents such as naphtha and gasoline. "Freon" solvents are classified as "selective solvents" because of their ability to remove oil, grease and

dirt from many objects without harming metal or plastic parts. They offer special advantages in the electric motor cleaning field where, unlike most other solvents now in use, they show no softening or dissolving effect on insulation materials.
(E. I. duPont deNemours & Co., Inc. Wilmington 98, Delaware)

Diamonite

Some of the outstanding properties of Diamonite are high strength from normal temperatures to over 2500 F, excellent DC and RF characteristics, hardness only slightly below diamond, low thermal expansion and zero porosity. Diamonite can be supplied to good tolerances "as fired" or diamond ground to precision tolerances and surface finish in an almost endless variety of shapes and sizes up to approximately 22 cubic inches of material. It is also furnished with metallizing for brazing or soldering. Diamonite is used where strength, dielectric, resistance, hardness, or elevated temperatures are a problem. Typical applications are ceramic radio tube parts, machine tools, welding guides and fixtures, heliarc welding nozzles, high temperature springs, wire and textile guides, sparkplug insulators, and grinding media.
(Wadsworth Mfg. Associates, 509 Balsam Street, Liverpool, New York)

Phosphor Wire Drawing Facilities

Complete facilities for drawing 5% phos bronze wire to diameters of .005, .010, and.015 are being utilized.
(United Wire & Supply Co., Providence, R. I.)

Adhesives - Coatings - Sealers

A new catalog #IND -540-756M has been compiled which fully explains all areas of adhesives. Free copy may be obtained upon request.
(Armstrong Cork Co., Ind'l. Div., Lancaster, Pa.)

Miniature Casting

A very complete line of die-casting, especially in miniatures in high speed runs, is available through the Dollin Corporation.
(Dollin Corp., 600 21st Street, Irvington 11, N. J.)

Automatic Machine Controls

If your plant is working in the area of continuous automatic production, electrical or mechanical, sensory controls and directors might be helpful.
(Sensory Inc., 55 Glenwood Avenue, E. Orange. N. J.)

Electron Microscope

The Hitachi $25,000 electron microscope, being displayed at the US World Trade Fair, is said to be of excellent quality and definition. The firm claims it sells about 10% of the 600 electron microscopes sold each year throughout the world. A smaller version sells for $10,000. Japanese ultra-miniature electrolytic condensers are being imported by Robin International Inc., New York City.
(Article in N. Y. Journal of Commerce, April 23, 1957, Page 1)

Ball Bearing Slewing Rim

A German wire race ball bearing slewing rim (an antifriction bearing which simultaneously absorbs stresses acting in any direction) is said to eliminate use of complex bearing systems and to simplify machine design.
(Article in N. Y. Journal of Commerce, April 23, 1957, Page 21)

Flexible Printed Conductor Cables

A new concept of multi-conductor cable in printed circuit form is attained by laminating insulating material over a conductive pattern bonded to a substrate of similar insulation. One application is a combination of printed circuitry and flexible cable in one piece.
(Article in Electrical Mfg. Magazine, November 1956, pp. 126 and 127)

Chamfering Tool

A new approach to removing burrs on the top and bottom of a hole is accomplished by a size-controlled chamfering tool. This tool chamfers both sides by using the forward feed stroke only. Simple in construction, it challenges outmoded expensive methods of chamfering holes in many parts with a new ball-thrust surface locator and a cutting feature that reduces hole cost, while maintaining chamfer concentricity. On the lower surface of the part where long burrs present difficult removal problems, the blade starts cutting from the inside of the hole then swings outward across the angle as the arbor is feeding through the part. These tools are adaptable to both manual and automatic applications in a range of sizes starting at 3/8" diameters and larger. Also available is a tool which offers a rapid and direct access for cutting angles or radii on reverse surfaces.
(Cogsdill Tool Products, Inc., 12890 W. Eight Mile Road, Oak Park 37, Mich.)

Preservative And Cleaner Reduces Contact Resistances

A preservative and cleaner for electrical contacts, called Cramolin, is said to eliminate deficient contact transmission. The product is designed to reduce contact resistances to their minimum values, reduce sparking of brushes on commutators and improve performance of contacts and collector rings. Maximum effective operating temperature range is minus 40 to plus 150C and the product should perform equally as well under air pressure as in a vacuum.
(Caig Labs., 46 Stanwood Road, New Hyde Park, Long Island, N. Y.)

Heat-Resistant Insulation Resists High Temperatures

Phalene, a heat-resistant insulation, allows operation at high ambient temperatures. The material has tensile strength from 2800 to 6400 psi. Dielectric strength figured at volts per mil is 500 to 700 for this product.
(Phalo Plastics Corp., 25 P Foster St., Worcester, Mass.)

Micro-Miniaturization

New type capacitors which promise major size and weight reductions are a lacquer film-type which substitutes a polystyrene skin less than .2 mil thick for mica -- also a tantalum wire type which substitutes wire for sintered material -- and a new metallic film resistor consisting of a glass fiber metallized with chromium and protected by a glass tube, which measures only .008" diameter.
(Article in Aviation Week, April 8, 1957, Page 86)

Glass Shielding Brick

A new-type glass shielding brick, as dense as iron and 2/3 as dense as lead has been introduced for use as an insert in a metallic or concrete wall to allow a worker to perform remote manipulations, read instruments behind the wall shield, etc.
(Atomic Center, 489-Fifth Avenue, New York, New York
(Article in N. Y. Journal of Commerce, April 10, 1957, Page 4)

Cleaner for Aluminum

A new, non-foaming cleaner which removes identification inks, grease, oils, and other heavy soils from aluminum has been announced. According to the producer, the new material, Oakite Aluminum Cleaner #164, has been specially compounded to clean without foaming in agitated tanks. Even without agitation its ability to remove difficult soils is said to be excellent.
(Oakite Products, Inc., 157 Rector Street, New York 6, New York)

Light Bulb

An electric light bulb called "Eternalite" is guaranteed by the manufacturer to last five years and, according to them, should effect more than 70 per cent cost savings over standard bulbs. In appearance the new bulbs are similar to other bulbs, but they are constructed of heavier and more durable glass and long-life internal power components.
(Eternalite, Inc., 401 Broadway, New York, New York)

NOTE

We are informed that two significant errors crept in the second paragraph of our April issue - "Brazing Alloys for Corrosion Resistant Metals" - in the fourth line, "One of the alloys contains 7% chromium . . ."(not alumium), and "The flow points are from 1825 to 1925°F. . ." (Whatever the flow points are for these metals, they are brazed in furnaces at 1950 - 2150°F.

On page 6 of the May issue, the new plastic polymer referred to is known as "Delrin" and not "Derlin" as printed.

INDEX