The American Ceramic Society

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Christine Schnitzer

Christine Schnitzer
Product Manager
Ceramic Information Center

735 Ceramic Place
Westerville, Ohio 43081-8720
614 • 890 • 4700
TWX: 7101109409

CERAMIC ABSTRACTS

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inert gas curtains inside furnaces, and simplified, smaller plants; (3) predictions for whiteware which include greatly shortened maturing schedules, custom-made kilns, unbreakable china, uncontaminated raw material, handling timed to make storage unnecessary, automatic batching, casting in a fraction of the present time, faster jiggering, radiant heat and atomic fuel, and rapid decorating; (4) predictions for glass which include smaller plants, pneumatic material handling, presintering for fast melts, trend toward automatic forming, combination annealing and heat-treating, lightweight glass, throw-away containers, and oxygen melting. Twelve charts with curves predict the rise and fall of market conditions for major appliances, architectural porcelain, porcelain sanitary ware, hollow ware, dinnerware, floor and wall tile, vitreous sanitary ware, electrical porcelain, glass containers, flat glass, glass tableware, and structural glass. C.G.B.

Controlling abnormal dust exposures. M. W. Thompson. *Occupational Hazards*, 10 [4] 12–13 (1948).—The removal of dust from places of origin by mechanical means and by moistening materials and air, as adopted by the American dinnerware industry, is discussed. M.H.A.

Dried molding sand. P. Nicolas. *Fonderie*, 1948, No. 29, 1172–76.—The results of tests are given in curves of humidity content after drying, density as a function of humidity, and compressive strength as a function of humidity and of exposure to air. The optimum values of a sand containing 18% clay with a fineness of A.F.A. 110 were obtained with a humidification of 7% for plasticity, 5% for cohesion in the green state, and 10% for strength after drying. To obtain a fine surface on the cast pieces the dried molds should be coated with stove black containing about 8% volatile matter and 25 to 30% ash; the grain size should be less than 0.7 mm. For steel castings, good results are obtained with a coating having a base of very fine silica; for cuprous alloys, a coating of silica and also one having a base of ocher are used; a coating composed of graphite, ocher or clay, and talc is used for general purposes. M.H.A.

Dropped-caisson shaft sinking. William S. Cole, Jr. *Eng. Mining J.*, 149 [4] 52–53 (1948).—Bauxite deposits in Saline and Pulaski Counties, Ark., require many shallow shafts in proportion to the tonnage mined. Conventional shaft sinking is not advisable due to layers of quicksand. A concrete caisson was made 18 in. thick and with an inside diameter of 8 ft. for a shaft. It was planned to dig out the middle, drop the caisson, and put another ring of concrete and repeat, but considerable trouble was encountered; however, it was finally completed to a 204 ft. depth. Future projects should (1) avoid test holes closer than 20 ft., (2) have adjustable guides for aligning the shell, (3) have guide runners to keep the caisson aligned, (4) have a gasket to stop sand blows, and (5) use water-tight joints between all pours. 4 figures. W.D.F.

Factors which will influence ceramics in next 25 years. Anon. *Ceram. Ind.*, 50 [6] 35 (1948).—Fifteen factors which will influence the next quarter century in ceramics are as follows: Americans will live better; there will be more family units; the population trend is up; the average age will be slightly older; military preparation will be planned in billions; commercial construction has only started; institutional and government needs involve huge construction; the European Recovery Program will tax American production; competitive raw materials are being depleted; home and rental construction will increase; backlogs still exist and may be increased; technological developments will broaden markets; industrial construction will continue strong; competitive product developments will challenge ceramics; and labor relations will be mutually more enlightened. C.G.B.

Failure to block doorways of freight cars causes severe damage to packaged freight. Anon. *Am. Paint J.*, 32 [28] 76–80 (1948).—A series of documentary photographs taken by the Shipping Container Institute show freight damage, its causes, and the results. The value of blocking doorways to prevent load shifting is stressed, and methods are suggested to prevent such shifting. A.J.H.

How to make a silk screen. Anon. *Ceram. Ind.*, 50 [6] 97 (1948). C.G.B.

How to set up a simple perpetual inventory system. B. L. Gotch. *Am. Paint J.*, 32 [30] 40–46 (1948).—A system through which any manufacturer or supplier of numerous articles can determine profitable items, reserve stock quantities, and control production, mark-ups, and reserves of raw materials can be set up using 3 × 5 in. file cards in a visible reference type file. Suggestions are offered concerning actual data to be entered on each card. A fictitious case illustrates the value of such a system. A.J.H.

Immersion media containing methylene iodide. Robert L. Darnell. *Am. Mineral.*, 33, 346–52 (1948).—The usefulness of methylene iodide in immersion media is emphasized. The nonlinear relationship of indices of refraction to composition by volume of some liquids containing methylene iodide is shown by experimental data. An empirical equation has been devised for calculating the indices of mixtures of methylene iodide and 1-bromonaphthalene from volume percentage data: $n_D = 1.6557 - 1/10^5 (4553x + 37x^2)$, where n_D is index and x is CH_2I_2 (vol. %). Calculated indices show close agreement with experimental values. The decomposition, purification, and preservation of methylene iodide is discussed. 17 references, 1 figure. W.D.F.

Mental hygiene and industrial health. R. G. Novick. *Natl. Safety News*, 56 [6] 28–29, 83–84 (1947).—Emotional factors in the adjustment of an employee to his work are beginning to be recognized as an important factor in safety. W.A.

Methods of sterilization of protective equipment. Walter F. Scholz. *Am. Ind. Hyg. Assn. Quart.*, 8 [3] 92 (1947).—A liquid soap solution is used, followed by a stream of warm water to remove the soap. The disinfectant Rocal is then used after diluting 6 oz. with 6 gal. of water; the bath is used for a week. At one plant about 75 respirators, 300 goggles, 100 goggle cases, 12 rubber suits, 5 rubber boots, and 65 miscellaneous pieces are sterilized in one week. Time of immersion in the bath is 10 min. The hands are not affected by immersion in the Rocal. Zephiran chloride is also satisfactory but more expensive. W.D.F.

Pulmonary dust disease. A. R. Riddell. *Ind. Med.*, 17, 168–70 (1948).—Silicosis is the most important but there are other dust diseases. The status of aluminum as a therapeutic agent for silicosis has not yet been determined. Fumes from heating bauxite to make corundum can cause trouble. The fume contains much alumina, silica, etc. Early cases are symptom-free with a slight lung shadowing. Later the symptoms may simulate pneumonia and heart disease and the shadowing spreads. Cadmium or cadmium compounds, either as fume or dust, cause a serious lung disease. During the war beryllium poisoning became known. Asbestosis has long been known. Workers in a very dusty talc mill showed lung damage, but the miners did not. The talc was fibrous and contained 30 to 50% free silica. There are some benign pneumoconioses, such as siderosis, which do not affect the length of life. 7 references. W.D.F.

Photoceramic technique. S. A. Berzon. Abstracted in *Steklo'naya i Keram. Prom.*, 1947, No. 9, pp. 17–18.—Details are given for transferring images from glass onto ceramic ware. The following reagents are used: (1) for cleaning the glass, a solution containing 4 gm. of ammonium dichromate, 15 gm. of dextrin, and 25 gm. of sugar in 100 cc. of water; (2) for transferring the image from the glass onto the ceramic ware, a solution consisting of 20 collodion, 30 ether, and 20% of 96° alcohol; (3) a dark-brown color containing the pigments $Fe(OH)_3$, $CO(OH)_2$, and ZnO in the proportion of 2:1:1 and a black color containing the pigments $Fe(O.4)_3$, $MnCO_3$, and $CO(OH)_2$ in the proportion of 2:1:4. The flux for these colors consists of Pb_3O_4 75, quartz 12.7, and boric acid 12.5%. B.Z.K.

Report on British Industries Fair. Jack Brooks. *Ceram. Ind.*, 50 [6] 131 (1948). C.G.B.

Research on asbestos fibers. M. S. Badollet. *Trans. Can. Inst. Mining Met.*, 51, 213–16 (1948).—The John-