

hemihydrate whisker fibres are formed, the fibres recovered before they cool and stabilised. Further treatment yields soluble or insoluble calcium sulphate anhydrite fibres.

Process for the manufacture of free-flowing, pulverant rubber/filler mixtures from rubber solutions (Chemische Werke Huls Aktiengesellschaft) *UK Pat 1 421 206* (14 Jan 1976)

An aqueous emulsion of rubber solution containing an alkyl amine-oxyalkylate, such as lauryl amine-oxyethylate, as emulsifier and the filler is added to hot water when the rubber/filler mix is precipitated and the solvent continuously distilled off. The pH of the aqueous phase is kept throughout at 0.1 to 7 and the precipitate is separated and dried.

Manufacture of impregnated web materials for surface coatings (Badische Anilin- und Soda-Fabrik Aktiengesellschaft) *UK Pat 1 421 210* (14 Jan 1976)

Paper is impregnated with an amino resin and a solution of a heat curable acrylic ester copolymer compatible with the amino resin applied to the surface. After drying the sheet may be used as the surface layer of a decorative laminate construction to give light colour coupled with good weathering properties.

Dispersion-strengthened alloys (International Nickel Limited) *UK Pat 1 421 252* (14 Jan 1976)

High strength with good oxidation resistance is produced by adding to a nickel-base alloy dispersion strengthened with a refractory oxide correlated percentages of chromium, aluminium and titanium.

Improvements in or relating to carbon composites (United Kingdom Atomic Energy Authority) *UK Pat 1 421 672* (21 Jan 1976)

A mixture of carbonisable resin, short carbon fibres and particulate carbon are sprayed on to a former to give the required thickness and heated in an inert atmosphere at a temperature at which the resin carbonises.

Flame resistant glass fibre reinforced moulding compositions (Badische Anilin- und Soda-Fabrik Aktiengesellschaft) *UK Pat 1 422 607* (28 Jan 1976)

Compositions contain an aromatic bromo compound, preferably hexabromodiphenyl, an oxide, such as zinc oxide and 2 to 10% of a silicic acid derivative, such as high surface area silica or oligomeric sodium orthosilicates.

Glass fibre reinforced thermoplastic moulding material containing inorganic pigments

(Badische Anilin- und Soda-Fabrik Aktiengesellschaft) *UK Pat 1 422 882* (28 Jan 1976)

Little loss in mechanical strength results from the use of inorganic pigments, such as zinc sulphide, which have a Mohs hardness of less than five.

A method of binding ceramic fibres and articles made from ceramic fibres (Zirconal Processes Limited) *UK Pat 1 423 167* (28 Jan 1976)

Fibres, such as mineral wool, are coated with a silica aquasol thickened with an evenly dispersed natural or synthetic clay which will form a gel or sol in water. The binder is usually set by subsequent heating.

US PATENTS

Process for producing carbon fibre Sato, H. et al (Mitsubishi Rayon Company Ltd, Tokyo, Japan) *US Pat 3 917 776* (4 November 1975)

The process comprises: admixing, with a copolymer (containing at least 85 mole % of acrylonitrile and 0.03 to 11 mole % of at least one cross-linked vinyl monomer selected from acrylic acid, methacrylic acid, itaconic acid, itaconic acid amide, N-methylol acrylamide, ethylene glycol dimethacrylate, ethylene glycol diacrylate, divinyl benzene, glycidyl methacrylate, ethyl benzylazilidene acrylate and diacetone acrylamide). At least one pyrolysis catalyst selected from the group consisting of ethylene-diamine copper nitrate, copper acetylacetonate, chromium acetylacetonate, chromium acetylacetonate, copper acetate, copper powder, metal complex or copper sulphate and succinamide, metal complex or zinc acetate and ethylene diamine and metal complex of copper nitrate and ethyl l-glutamate. The copolymer is spun into a fibre, the fibre is stretched to 1.2–8 times its original length and heat treated until a degree of molecular orientation of at least

85% is obtained. The fibre is then heat treated in a non-oxidising atmosphere at 250–1,200°C to effect carbonisation.

Tone arm

Nakajima, H., Kawakami, H. and Tatara, S. (Sony Corporation, Tokyo, Japan) *US Pat 3 918 722* (11 November 1975)

A tone arm, for use with a record-playing unit, made with CFRP and having a resonant frequency which does not coincide with the noise frequencies generated by eccentric records.

Cantilever for use with pickup cartridge

Nakajima, H., Kawakami, H., and Tatara, S. (Sony Corporation, Tokyo, Japan) *US Pat 3 918 723* (11 November 1975)

A cantilever made of CFRP, for use with a record player pickup cartridge, having a stylus attached to one end and a transducer attached to the other end.

Metal reinforced plastic helical screw compressor rotor

Moody, H. W. and Bulkley, C. T. (Dunham-Busy, Inc, West Hartford, USA) *US Pat 3 918 838* (11 November 1975)

Method of controlling glass fiber forming operation

Maaghul, J. and Griffiths, D. H. (PPG Industries Inc, Pittsburgh, USA) *US Pat 3 918 947* (11 November 1975)

In the coating of glass fibres (where glass fibres are drawn at high speeds from a molten glass source, coated while being drawn at high speed and passed through a high-temperature drying zone to remove moisture after coating and where the fibres have been gathered before drying into a number of small strands), the improvement gathering the clusters of small glass strands into a single consolidated strand after coating and passing the single consolidated strand through the drying zone, when the speed of the individual strands passed through the drying zone is below a value during coating which would damage the individual strands during drying: this prevents damage to the individual strands.

Thermal insulation of mineral fiber matrix bound with phenolic resin

Higginbottom, H. P. (Monsanto Company, St. Louis, USA) *US Pat 3 919 134* (11 November 1975)