

Komarova O.P., Korneev I.Y.

**DEVELOPMENT OF A NEW STICKY MATERIAL FOR MEDICAL ADHESIVE
PLASTER**

**Department of technology of plastics and biologically active polymers
National Technical University "Kharkiv Polytechnic Institute", Kharkov, Ukraine
Scientific adviser- Ph. D. Cherkashina A.M., Ph. D. Piedmont L.P.**

Plasters medical fixing (adhesive tape) is used for fixation of compresses, tampons, bulk and tight post-operative dressings and coatings. When creating adhesives for medical purposes originate from the fact that they should be non-toxic, have optimum adhesion to

the human skin and also sufficient adhesion to the substrate, so that the tape can be removed from the skin without damaging the integrity of the adhesive layer.

By composition all adhesive tapes comprise at least two parts - a base and an adhesive that is sensitive to pressure. As a base can be applied include various fibrous materials (fabrics, paper), and polymeric films. In the manufacture of adhesive films for medical purposes as a base generally used polyethylene and polypropylene film.

As a base of adhesive tapes using various materials (depending on the application tape): polymer (polyethylene, polyethylene terephthalate, polyimide's, cellophane, polyvinyl chloride), cloth (fiberglass, cotton fabrics, knitted fabrics, etc.), foil, rubber, flexible PVC. The greatest strength of these materials have a polyimide and polyethylene terephthalate film. As the layer having tackiness is used different tack compositions. In most cases the basis of sticky compositions are rubbers (natural, chloroprene, nitrile, thiokol, polyisobutylene), ethylcellulose in combination with various additives that increase their tackiness. Such additives include resins (phenol-alkyl, perchlorovinyl, polyterpene), rosin and its derivatives. Some formulations also include fillers (often zinc oxide).

Adhesive tapes obtained by applying an adhesive to a substrate in the form of a solution, a dispersion, a melt or a dry coating method. Adhesive compositions for application to a substrate is prepared as conventional adhesives by mixing the components. Sticky adhesives in the form of solutions applied by conventional spreading machines and irrigation machines drum or belt type. Fluff adhesive tape was dried at 50-80 ° C for 5-10 min. Promising is the use as a layer of single-component water-sticky emulsion adhesives. For this purpose use almost all rubber latexes and dispersions of acrylates. As the use of acrylic emulsion copolymers of butyl acrylate and acrylic acid or butyl acrylate, acrylic and methacrylic acid or acrylic acid ester copolymers containing carboxyl groups with the addition of aqueous ammonia solution of 25% concentration in an amount of 1.5 to 5% of the medium to pH 6 -8.5. Furthermore, these adhesives contain a thickening agent, a surfactant, a substance regulating the pH of the dispersion antifreezing et al.

We developed different compositions adhesive tapes consisting of a polymeric substrate layer and an adhesive based on a copolymer of butyl methacrylate with methacrylic acid. The polymeric base film is made of polyethylene terephthalate, and an adhesive layer formed from a composition comprising a copolymer of butylmethacrylate with methacrylic acid ester monocyclohexylphthalic acid and N-benzoic piperidin and other components. In addition to these components in the claimed composition can be added to an adhesive antibacterial and various drugs.