

Gas can have various density, the liquid can have various viscosity, firm particles of substance have the various form and the sizes. Gas can move at various pressure, the liquid and firm substances can press on the filter a gravity of the weight or move under pressure. Speed of a filtration can be significant or specially underestimated.

With the purpose of achievement of peak efficiency of work of the filter the designer should analyze features of the form and the sizes of pores, structure and fibrous structure of threads, a phase of a fabric structure, ability to resist to real external loadings.

For example, if the firm particle has the form of a square, a circle, a sphere or is close to these forms pore between threads should have also the form of a square. If the particle has the oblong form pore should have the form of the extended rectangular.

If the liquid is sated by firm substances which are necessary for detaining and isolating the structure of threads should be volumetric with backlashes between fibers for the maximal capacity. If it is necessary to provide the set small speed of a filtration the size of a pore is necessary for coordinating with viscosity of a filtered liquid precisely.

Quality of the composite materials created on the base of use strengthening woven frameworks, appreciably depend on quality of impregnation of layers of a woven fabric with chemical binding substance. In practice in most cases gross blunders in choice of a woven fabric for frameworks there are mistakes that lead to decrease in physical properties of composite products and term of their use. For example, at manufacturing tapes of the conveyor designers care mainly of durability of woven framework on break by creation of very coherent, dense structure. Such woven fabric cannot be impregnated with binding substance (for example, liquid rubber) on all thickness. Three independent layers turn out only: from above and from below from rubber, and inside – a woven fabric of the big thickness. After the certain quantity of a sign-variable bend at rounding extreme directing blocks (rollers) there is a dividing into layers of a tape of the conveyor, i.e. its output out of operation. Manufacturers of these tapes are compelled to resort to replacement of the smooth synthetic threads creating rather smooth surface of contact

to rubber, by less strong of "shaggier" fibers of a clap for greater connectivity.

Rule of achievement of high quality of impregnation of woven framework of a composite material only one: it is necessary to create pores of free or labyrinth flow in structure of a woven fabric in exact conformity with size of viscosity of concrete binding substances. At observance of this simple rule service life of a conveyor tape can be increased twice, it will depend only on time of deterioration of a superficial layer of rubber.

In most cases for manufacturing of woven composite products with the curvilinear volumetric form the woven fabric of even structure is used. However, at formation of a concrete detail of the complex form mutual displacement of threads on various sites of product is necessary. For this purpose it is necessary to create original structure of woven fabric in view of this circumstance.

4.3. *Fabrics of special purpose*

Person have to work in special conditions: at the chemical enterprises, at fire extinguishing, in medical institutions, in conditions of military service and war, in space, etc.

For example, for exception of permeability of harmful gases and a dangerous liquid was extended a way of a covering of an external surface of a woven fabric with special composition. On an internal surface of such impenetrable fabric there is a condensate of sweat extraction of the person. Therefore, except for an external protective fabric, the worker, the researcher should dress additional clothes of significant volume.

In this case it is possible to recommend structure of a woven fabric of limiting density of an arrangement of threads close to first or ninth phases of a structure in view of the important circumstance: weft (at $N_F \approx 1$) or warp (at $N_F \approx 9$), woven fabrics acting on an external surface, it is necessary to make threads "fluffy", "shaggy" with a lot of the ends of fibers with maximal areas around of a body of a thread. Thus there is a double advantage: the area from the ends of fibers provides reliable communication with an external protective environment and increases volume of an internal surface of a woven fabric for absorption sweat extraction of the person. In this case it is possible to facilitate additional internal clothes essentially.