

The first base recommendation to designer of woven fabric: it is necessary to bring up in his ability to recover, "humanize" threads and a woven fabric. Then ability to feel physically conditions of its work will come: as threads and a woven fabric as a whole under action of real loading as it absorbs a moisture strain, passes air, a liquid, etc.

The second base recommendation: more deeply than usual to comprehend conditions of using of a woven fabric. It is necessary to realize "trifles" of concrete functions of use of a woven fabric according to its purpose.

4. 1. *Fabrics of household purpose*

It is known, that conditions of a life of the person depend on a residence on a planet the Earth, time of day and year, material opportunities. The age of the person, its physical qualities, a state of health also are various. Such infinite variety does not allow to pay attention in one work of the designer for all occasions of the person, therefore we shall be limited only to a statement of a technique of the analysis of conditions of use of woven fabrics of household purpose and their account by elaboration of new woven fabric structures.

For example, bedding, bottom bedsheet, the pillowcase, the bottom part of a blanket cover should be significant to absorb a moisture (secretion of sweat of the person) and to remain to the touch dry. But bedsheet, used in the summer period instead of a blanket, should possess property of easy permeability of air through pores of a woven fabric for significant ventilation of a body of the person. Thus, in the first case the woven fabric should possess significant thickness, and in the second case – to have the size of a pore providing a "free" direct of air flow. However in practice bedding are made of one structure of a woven fabric.

For umbrellas it is standard to make a woven fabric of uniform structure of plain weave of threads of one thickness with equal density of an arrangement of a weft and warp at the fifth phase of a structure. However we were already convinced (Fig. 4) that the fifth phase of a structure does not provide absence of pores even at limiting density of an arrangement of a warp and a weft threads in structure of a woven fabric. To exclude pores, it is necessary to project a woven fabric with limiting or over limiting density of an arrangement of threads at the order

of phases $NF = 0.4266 - 0.2$ (Fig. 5). Here the remark is pertinent: continuous without pores the density of a woven fabric of the specified phases of a structure can be received without essential increase of intensity of process of its formation on weaving looms.

For raincoats fabrics of various variants of threads interlacing and structures are used. With reference to a plain weave fair there is a recommendation for umbrellas.

If in the countries with a cold climate the outer clothing should protect reliably the person from a cold penetrating wind, in the countries with a warm climate the woven fabric of outer clothing should provide a combination of air permeability from a body of the person and protection against a strong wind, and at a hot climate the woven fabric should give only a shadow on a body of the person with a condition of high permeability of evaporations from a surface of a leather.

In a life, except for clothes, the woven fabric is used in the form of curtains at windows, coverings of furniture, furniture of an interior, etc. with special requirements to use and an aesthetic image.

As a result specific conditions of woven fabrics for a life of the person dictate necessity of elaboration by the designer of corresponding kinds of a woven fabric with the set pores with use of threads of concrete structure, parameters and a kind of a fiber.

4. 2. *Technical fabrics*

Specificity of work of woven fabrics of technical purpose makes more rigid demands to maintenance of the set parameters of a woven fabric structure.

As a rule, for development of new structure of a woven fabric the designer receives from the customer only the formulation of the purpose of woven fabric use, desirable result of its application. Therefore it is necessary for designer to begin work not with elaboration of a woven fabric structure, and from knowledge of subtleties of process of work of a woven fabric of real conditions, concrete values of parameters of its operation.

For example, process of filtering of various substances: gas, liquid, firm substances, etc., it will be natural to depend on properties and parameters of filtered substance and concrete quality indicators of a fabric structure.