The extended rectangular of a pore on Figure 6(a) is received by a combination of limiting density of an arrangement of a weft threads with normal density of an arrangement of more thin threads of a warp. The area of cross-section of a pore is equal $S_{wp}^{N} >> S_{wft}^{lim}{}_{(9.8)}$ at $d_{wp} << d_{wft}$ and $L_{wft}^{N} >> L_{wp}^{lim}{}_{(9.8)}$. The difference of extent of an air flow along weft threads (A_1) and along of a warp threads (B_1) is essential. Quality of impregnation with a binding substance of such woven fabric will be high on manufacture of composite materials.

If it is necessary to create structure of a woven fabric with isolation from free of air flows (gas, particles of substances, etc.) it is necessary to ensure cumulative limiting density of an arrangement of a warp and weft threads. At phase $N_F = 9.8$ (Figure 6(b)) wefts should exceed essentially on thickness of a warp threads: $d_{wp} << d_{wft}$ at $L_{wft}^{lim}{}_{(9.8)} = 2a_{wft(9.8)} + 2b_{wp(9.8)}$ and $L_{wp}^{lim}{}_{(9.8)} = 2a_{wp(9.8)}$, $S_{wft}^{lim}{}_{(9.8)} \approx 2b_{wp(9.8)}$ and $S_{wp}^{lim}{}_{(9.8)} = 0$. The view A (b) on cross-section of a weft threads is identical with to a view A of cross-section of a *warp* threads on Figure 5(c).

The analysis lead above porosity in unit cells of woven fabrics of a various phase of a structure allows to represent evidently on Figure 7 general picture of a variation of size of pores at transition from one phase to another at limiting density of an arrangement of threads of fibers of one kind. Concrete values $S_{wft}^{lim}{}_{(i)}$, $L_{wft}^{lim}{}_{(i)}$ and $h_{wft(i)}$ are taken by us from an example (in article it is not resulted) calculations of all parameters of a woven fabric structure at all phases of a structure.

On the left Figure approximation of change of size of a free air flow between weft s $S_{wft}^{lim}{}_{(i)}$ in process of decrease in the order of phases $N_{F(i)}$ is evidently presented: at phase $N_F(9.8)$ pore has size $S_{wft}^{lim}{}_{(9.8)} \approx 2b_{wp}^{lim}{}_{(9.8)}$ which increases in process of transformation of a woven fabric structure with downturn of order of a phase. The maximal value of the size of a pore Swftlim(5) between wefts belongs to the fifth phase of structure. Then there is a process of reduction of size $S_{wft}^{lim}{}_{(i)}$. At phase $N_{F(0.4266)}$ there comes contact wefts, at which the size of a pore between wefts decreases up to zero $S_{wft}^{lim}{}_{(0.4266)} = 0$. The further reduction of the order of phases is accompanied crumple wefts in a direction of the big axis $2a_{wft}$ ellipse cross-section of weft. Maximal wefts crumple come out at $N_{F(0.2)}$ (smaller value of the order of phases in the given work is not considered).

The right shaded figure represents change of a pore for a free air flow between threads of warp $S_{wp}^{lim}{}_{(i)}$ in an unit cell of a woven fabric of a plain weave with limiting density of an arrangement of a warp threads. As a whole the alternative analogue change $S_{wft}^{lim}{}_{(i)}$ has came out. Essential distinction of the tendency of change of pore size is observed on a site of reduction of height of a wave of a bend a weft from $h_{wft(9.58)}$ up to $h_{wft(9.8)}$. On this site $S_{wp}^{lim}{}_{(i)} = 0$, the free air flow between warp threads is absent.

At the final stage of the analysis of pore formation in woven fabrics we shall lead a technique of research of the empirical models approximating connection of size of distance centre to centre of cross-section of wefts $L_{wft}^{lim}{}_{(i)}$, and also sizes of a direct of air flow between wefts $S_{wft}^{lim}{}_{(i)}$ from size of height of a wave of a bend of weft $h_{wft(i)}$ in an element of a woven fabric of a plain weave under condition of preservation of limiting density of an arrangement of wefts to fabrics in process of transformation of the order of phases of a woven fabric structure from $N_F = 9.8$ up to $N_F = 0.2$:

$$L_{wft}lim_{(i)} = f(h_{wft(i)}) \text{ and } S_{wft}lim_{(i)} = f(h_{wft(i)})$$

On Figure 8 curve of the smooth accelerated rapprochement of wefts in an element of a woven fabric in process of increase in their height of a wave of a bend is approximated by a polynom of the fourth degree :

$$L_{wft} = -6.12\times10^{-6}h_{wft}^{4} + 6.6274\times10^{-4}h_{wft}^{3} - 3.224504\times10^{-2}h_{wft}^{2} - 0.06725295h_{wft} + 101.3750252 \quad (7)$$

On Figure 9 direct air flow $S_{wft}^{lim}{}_{(i)}$ between wefts in an unit cell of a woven fabric with limiting density of wefts arrangement is displayed by curve with more complex form with crossing axis X ($S_{wft}^{lim}{}_{(i)} = 0$). This law approximated also with a polynom of the fourth degree :

$$S_{wft} = -6.13\times10^{-6}h_{wft}^{4} + 6.6332\times10^{-4}h_{wft}^{3} - 3.225088\times10^{-2}h_{wft}^{2} + 0.92552068h_{wft} + 11.62492052 \quad (8)$$

The given graph represents special value. Using a graphic method, the designer of new structure of a woven