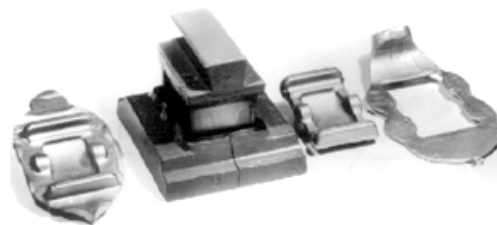




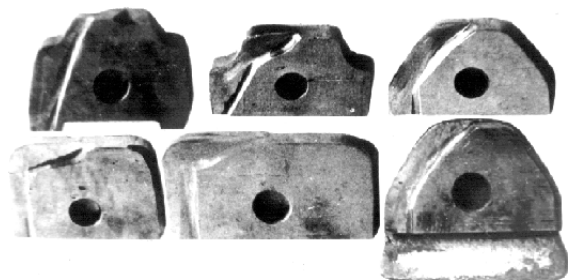
Technology of shape castings manufacturing with using of intensive heat cooling

Manufacturing shape castings of alloy steels with minimum allowance for machining by or without it foresees the creation high cooling rate in a casting mould ($10^2 - 10^3$ °C/s).

A cast dispersed structure is formed with a minimum liquation, without large and isolated non-metallic phases; it is ensured a high alloying solid solution; and as result the increase of strength impact toughness of steel.



The technologies are destined for manufacturing cast dies, cutting tools, tools for the exploitation under conditions of intensive abrasive and impact-abrasive wear. The use of these technologies ensure the increase of exploitation durability of the listed above instruments 2-4 times in comparison the ones made of rolled products, the decrease of cost price 2-4.5 times, the reduction of machining volume and losses of metal due to machining by 50-70%, the decrease of labor intensity of parts making 2-3 times, the reduction of the coefficient of metal use from 0.4 to 0.9, a considerable reduction of the duration and number heat treatment operations.



The varieties of the technologies foresee the exclude of strengthened heat treatment operations, since the conditions martensite transformation are created at cooling castings; they open possibility of using heat of molten metal for hardening, normalizing and annealing. Technologies allow to: automatize casting process by means of creation of casting machine and technological lines: use secondary raw materials in closed-type technological cycle.

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Please forward your proposals and suggestions to:

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