

STANDARDS FOR TURNING POLYMER MATERIALS BASED ON PRE-ROLLING TO IMPROVE ROUGH SURFACE QUALITY

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Annotation. The presence of specific properties of polymeric materials leads to a sharp difference in their processing processes from metal cutting processes, and the effectiveness of cutting methods largely depends on the parameters of the processing methods and cutting tools. At the same time, in practice, there are great difficulties in achieving the required quality of the processed surface of parts made of polymeric materials based on conventional processing methods and cutting methods recommended in the literature .

Keywords : Polymer, chisel, machine, deformation, elastic, press, mechanism, tumor, scrap, plastic, pressure.

Modern method made of polymer materials with prepared details one row to the shortcomings owner . Available shortcomings elimination in verb additional mechanical processing to give necessary . Such processing to give simple and mixed methods with the help of to do is increased . Complicated processing to give methods one how much physico- chemical of events the effect and them delivery to give methods combines . Simple processing to give methods , from this different dying one of the kind from energy uses , one method with him/her work in place delivery gives .

It is expedient to divide the methods of processing with a technological environment into two large groups [5,3]: methods of processing with the mechanical effect of the environment and methods of processing with the physicochemical effect of the environment. The

methods of the first group are based on mechanical effects resulting from the impact of objects on each other and the impact of the environment with fine-grained particles. As a result, the defects that need to be eliminated are broken and cut. The impact of objects with particles of the environment always leads to crushing of the edges, corners and tops of objects. The impact of objects on each other leads to crushing, rounding of the edges of objects, strengthening of the surface, crushing of small irregularities on the surface. Objects hit the walls and bottom of the container only with their edges, corners and ends, while the roughness disappears, the edges and corners of the parts are rounded

-Currently, certain methods aimed at eliminating defects in the technological process of producing polymer products are used to clean products from burrs and irregularities, to grind and round their edges, to strengthen the surface and give it a beautiful appearance;

- the implementation of certain methods depends on the availability of complex and expensive special equipment: their use is carried out using fire safety, explosion safety and acceleration environments;

The chip formation process is greatly influenced by the angle of the cutting tool at the front, cutting modes (cutting speed, longitudinal feed and depth of cut). The roughness of the surface depends on the geometry of the tool sharpening and cutting modes. The cutting properties of the following grades of hard alloys were studied: hard alloys of the VK group (VK2, VK3, VK3M, VK4, VK6, VK6M, VK8, VK8M, VK8V); hard alloys of the TK group (T5K10, T14K8, T15K6, T30K4, T60K6); hard alloy TT7K12.

A comparison of alloys of groups VK and TK (Fig. 1.2) shows that those of the first group have high durability.

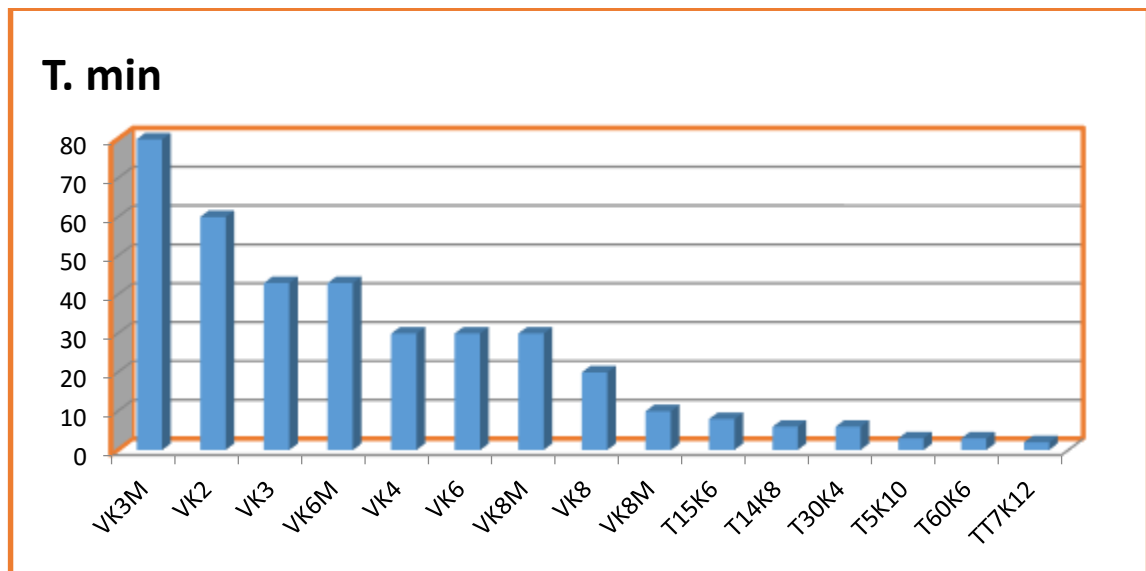


Figure 1.2. Solid alloy of cutters eFB -P glass plastic in cutting endurance diagram (cut speed - $V = 90\text{m/min}$,

longitudinal thrust - $S = 0.21\text{ mm/ob}$, shear depth - $t = 1.5\text{mm}$)

TC groups hard alloys V K groups alloys with compared to the TK group hard of alloys eating of the height reason processing being given of the material to oneself characteristic and hard physical and mechanical properties of alloys difference is considered .

The instrument shaved ditches thorough processing to be given (polished) . need ; their size magnified to be need ; this tool polymer film on the surface of adhesion ahead to receive , as well as harvest will be shavings many in quantity location for necessary .

The roughness of the treated surface depends on:

1. properties of the processed material; 2. cutting to the mode ;
3. to the geometric parameters of the cutting tool; 3. cutting tool to be eaten ;

Cutting optimal (best find) the speed (of the tool endurance on) through empirical formulas [2]. endurance period , cut depth and push , tool to the material related in case calculation possible . This formulas cutting of the process various factors cutting to the speed effect level

determines For example, VK8 is hard from alloy prepared cutter with in the field cutting speed $V(\text{m/min})$.

$$V = \frac{5640}{T^{0.08} S^{0.055} t^{0.055}} (1.1.)$$

formula with calculation possible .

Quick-cut steel cutters with when you are tired cutting speed

$$V = \frac{1500}{T^{0.082} S^{0.055} t^{0.055}} (1.2.)$$

formula with calculation possible in which: T- of the instrument endurance , min; S- longitudinal thrust , mm/ob; t- cut depth , mm . b. health analysis (1.1.) and (1.2.) the following shows that :

- 1) Quick-cut cutters with of the cut permission done speed hard alloy tool with processing in giving permission done 2.5-3 times less than speed ;
- 2) When increasing thrust , for example, 4 times cutting speed is reduced by 2 times ;

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