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**MAINTENANCE AND SAFETY GUIDANCE FOR WORK WITH
GRINDING FIBER DISKS**

**Russian Classification of Products by Economic Activities 2: 23.91.11.140
Customs Commodity Code EAEU: 6805 20 0000**

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The guidance is developed according to GOST P 52588 – 2011 «Abrasive tools. Safety requirements».

1) Conditions and storage life

1. The warranty storage life is 12 months from the date of manufacture.
2. The storage life is 5 years from the date of manufacture.
3. Escape the mechanical damages, for example, strokes, discharges or deflections and also provide the security from rainfall, dew, white frost.
4. Keep the abrasive tools in dry, nonfreezing area.
5. If possible keep the abrasive tools in the original package. Keep the abrasive tools that are out of the packages in a way to escape the deformation.
6. The efficient temperature for the units is 18-22 °C.
7. The relative atmosphere humidity is 45-65%.
8. It is forbidden to keep the wheels closer than 1 meter from the heating devices, cold, wet walls, windows, doors, on the floor.
9. It is forbidden to expose the wheels to direct sunlight.

2) Instructions on placement and installation of the tools on equipment, measures of precaution:

1. Only persons who have passed training, certification, qualification commission on labour safety are allowed to work with grinding wheels.
2. Equipment must be provided with:
 - removing of abrasive dust and waste from the working zone;
 - protection of the worker against abrasive, metal and non-metallic dust, particles of the processed material formed during the grinding;
 - the abrasive tools and their fastenings should be protected by means of protection (protection hood, metal screen, protective shroud, etc.) included in the equipment.
3. The wheels should be viewed before the installation.



It is forbidden to use a wheel:

- **with cracks and scratches on the surface;**
- **that doesn't have testing mark on mechanical strength.**

4. The wheels should be tested on mechanical strength with the speed of trial start $V_{pr} - 100\%$ according to GOST P 52588-2011. There should be a testing mark with the mention of serial number and the date of testing on the tools that passed the test.
5. The discs made from the grinding fiber are used just with the efficient support trays. It is forbidden to use the disc from the grinding fiber as a support tray. The diameter of the fiber disc from the grinding fiber must be 3 mm, but no more than 15 mm less than the diameter of the support disc. In case of grinding fiber disc of the form 2Ab that has the depressed centre and the edge of the disc border on periphery, the support tray should be depressed inside between the edges of the borders and tighten the borders of the wheel inside.
6. Before the beginning of the work inspect the disc and support tray if they are damaged while the transportation or careless storage. Do not use any damaged or disformed fiber discs or support trays.
7. The maximum working speed of the fiber disc is 80 m/s. The maximum possible rate speed according to GOST P 52588-2011 depends on the diameter of the grinding wheel. The rate speed of the portable grinding machine must be equal or less than the rate speed of the fiber discs.
8. Check the working capacity of your equipment before the beginning of the work. Never take off the protective shroud when working with portable grinding machines!

9. Fix the disc and support tray on the spindle of the machine out of winds tightening it by the special fixture. Be sure that they are safely fixed. After the finished fixing the disc must join the support tray at an angle 10°.
10. Start the portable machine and check at idle how the disc runs. When running it must move without jumping and axial deflections. Start the grinding when the disc reaches the maximum number of revolutions at idle speed.
11. Before beginning of the work the grinding fiber disc should be subjected to the idle running on the machine or portable grinding machine with the working speed during 2 min.
12. When grinding of edges or borders of joint welds the fiber disc is not performed in advance to the grinding zone to escape cleavages on the border of the disc.
13. When working you need to maintain the following measures of precaution:



- to work in safety earphones;



- to work in individual respiratory protection equipment;



- the safety gloves should be used while working with portable grinder ;



- It is not allowed to use a coolant-cutting fluids;



- it is possible to use just with support disc.

14. It is forbidden to use the wheels on operations that are prohibited by the safety marks with the speed exceed that are mentioned on the label.
15. When installing on equipment or handle tools it is essential to comply with the safety requirements that are anticipated when exploitation of this equipment.

3) The list of possible incorrect actions that can cause the crashes:

- mechanical damages of the wheels;
- application of the regimes higher that the ones required;
- installation of the tools on equipment that is not recommended for it;
- absence of the machine balancing according to the certificate;
- absence of the wheels testing marks;
- exceed of the periphery speed;
- absence of the protective shroud;
- lack of proper training of employees;
- application of wrench attachments and also drum tools when fastening of the wheel;
- jumping of the spindle more than the required norms;
- careless storage of the tools.

4) Safe disposal information:

Used wheels according to the «Federal classification catalogue of waste materials» (FCCW-2017) are related to the waste materials of the class 5 (code 456 100 01 51 5 «Used abrasive wheels, junk of used abrasive wheels», code 456 200 01 29 5 «Used coated abrasives»). The waste of used wheels does not imply an environmental hazard and can be disposed at the domestic wastes landfill.