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Rotation test of grinding wheel strength

砂轮的回转试验方法

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Rotation test of grinding wheel strength

1 Scope

This Standard specifies the rotation test equipment, chuck and partition for rotation test, test requirements and test methods for grinding wheels.

This Standard applies to grinding wheels of various bonding agents.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

GB 2494, Bonded abrasive products -- Safety rules

3 Test equipment

3.1 The rotation testing machine is selected according to the specifications and models of the grinding wheel and the way of installing the card.

3.2 The relative error range of the spindle speed of the rotation testing machine is $\pm 1.5\%$.

3.3 The spindle radial run-out of the rotation testing machine is not more than 0.07 mm; the measurement position is 1/2 of the exposed part of the spindle.

3.4 The rotation testing machine shall be equipped with a timing device, to ensure automatic timing when the spindle speed reaches the test speed, and to maintain the automatic reduction of speed within set time.

3.5 For the noise of the rotation testing machine, the sound pressure level shall not exceed 85 dB(A) when it is no-load.

3.6 The protective cover of the rotation testing machine shall be firm and safe.

3.7 The rotation testing machine shall be calibrated regularly; the recalibration interval shall not exceed 1 year; the rotation testing machine shall be calibrated after repair.

-- Rupture speed test: install the grinding wheel on the rotation testing machine; perform the rotation test in accordance with the minimum rupture speed that is specified in GB 2494.

5.2 The grinding wheel that is installed on the spindle of the rotation testing machine shall be fastened by chucks at both ends.

5.3 When the aperture of the grinding wheel is larger than the outer diameter of the spindle of the rotation testing machine, it's allowed to use a shaft sleeve; the tensile strength of the shaft sleeve material shall not be less than 411 MPa.

5.4 During the safety speed test, it is allowed to install multiple grinding wheels on the spindle of the rotation testing machine at the same time; the grinding wheels shall be separated by partitions. The outer diameter of the partition and the width of the pressing surface are the same as the chuck.

5.5 During the rupture speed test, test one wheel at a time.

5.6 Where there are other provisions for the rotation test method in the product standard, it shall be implemented in accordance with the product standard.

6 Test method

6.1 Turn on the power switch; set the speed of the testing machine to the speed that is required for the grinding wheel rotation test.

6.2 According to the provisions of Chapter 5, install the grinding wheel piece by piece to the spindle of the rotation testing machine.

6.3 Lock the test method protective cover of the testing machine; start the testing machine.

6.4 After the testing machine stops rotating, open the protective cover of the testing machine and remove the grinding wheel.

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