ISO 19843:2018 (E)

Rolling bearings — Ceramic bearing balls — Determination of strength by notched ball test

Contents

Foreword

Introduction

1 Scope

2 Normative references

3 Terms and definitions

4 Symbols

5 Test description

6 Equipment and testing devices

6.1 Loading device
6.2 Testing machine
6.3 Measuring devices
6.3.1 General
6.3.2 Micrometer for external measurement
6.3.3 Mechanical dial gauge
6.3.4 Light microscope
6.3.5 Measuring gauge for the determination of the ligament thickness
6.4 Grinding machine
6.5 Psychrometer
6.6 Dryer

7 Preparation of the notched ball

7.1 Number of test pieces n
7.2 Diameter determination
7.3 Preparation of the notch
7.3.1 General
7.3.2 Notch geometry
7.4 Cleaning

8 Test procedure

8.1 Measurement of notch parameters
8.2 Mechanical testing

9 Evaluation

10 Potential uncertainties and deviations

11 Test report

Annex A (normative) Function tables for prefactor f

Annex B (normative) Comparability of notched ball strength results

Annex C (informative) V-block system for preparation of the notch

Annex D (informative) Positioning aid

Annex E **(informative) Example of a test report for determination of the notched ball strength**

Annex F **(normative) Notch root damage due to machining**

Annex G **(informative) Proposed initial testing speed for the cross head**

Page count: 32