

# ISO 18592:2019 (E)

## Resistance welding — Destructive testing of welds — Method for the fatigue testing of multi-spot-welded specimens

---

### Contents

	Foreword
	Introduction
1	Scope
2	Normative references
3	Terms and definitions
4	Symbols and abbreviated terms
5	Specimens
5.1	General
5.2	Selection of suitable specimens
5.3	Specimen fabrication
5.3.1	Sheet material
5.3.2	Bending and forming
5.3.3	Tolerances
5.3.4	Welding
5.3.5	Storage
5.3.6	Inspection
5.4	Specimen geometry
5.4.1	General
5.4.2	Specimen geometry of tensile shear and peel specimens
5.4.3	Geometry of the hat and closed section specimens
5.4.4	Double disc and KS-2 specimen
6	Requirements for testing machine
7	Specimen grips and alignment
7.1	General
7.1.1	Alignment verification
7.1.2	Clamping device calibration
7.2	Shear and peel loading
7.2.1	General
7.2.2	Shear loading
7.2.3	Peel loading
7.2.4	Shear loading parallel to the joint line
7.2.5	Torsion loading
8	Test procedure
8.1	General
8.2	Mounting the H-specimens
8.3	Clamping procedure for the H-specimens
8.4	Fatigue test
8.4.1	General
8.4.2	Test frequency
8.5	Test termination
8.5.1	General
8.5.2	Stiffness calculation
8.5.3	Data acquisition
8.5.4	Failure criterion and number of cycles to failure

**9 Test report**

- 9.1 Basic information**
  - 9.1.1 General**
  - 9.1.2 Material prior to fatigue test specimen preparation**
  - 9.1.3 Mechanical properties**
  - 9.1.4 Specimen design and preparation**
  - 9.1.5 Test procedure**
  - 9.1.6 Fatigue testing machine**
  - 9.1.7 Ambient conditions during the fatigue test**
  - 9.1.8 Results of post-test examination**
- 9.2 Presentation of fatigue test results**
  - 9.2.1 Tabular presentation**
  - 9.2.2 Graphical presentation**
  - 9.2.3 Numerical evaluation, statistics**

**Annex A (informative) Calibration specimen for verifying the load distribution in H-specimens**

**Annex B (informative) Hydraulic grips for the fatigue testing of H-specimens**

**Annex C (informative) Grip for the fatigue testing of H-specimens**

**Annex D (informative) Flow chart — Data acquisition**

**Page count: 35**