

ISO 16842:2014-10 (E)

Metallic materials - Sheet and strip - Biaxial tensile testing method using a cruciform test piece

Contents		Page
Foreword		iv
Introduction		v
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	2
5	Test piece	2
5.1	Shape and dimensions	2
5.2	Preparation of the test pieces	2
6	Testing method	4
6.1	Testing machine	4
6.2	Measurement method of force and strain	4
6.3	Installation of the test piece to a biaxial tensile testing machine	6
6.4	Testing methods	7
7	Determination of biaxial stress-strain curves	7
7.1	General	7
7.2	Determination of the original cross-sectional area of the test piece	7
7.3	Determination of true stress	7
7.4	Determination of true strain	8
7.5	Determination of true plastic strain	8
8	Test report	10
8.1	Information in the report	10
8.2	Additional note	11
Annex A (informative) Method for measuring a yield surface		12
Annex B (informative) Factors affecting the maximum equivalent plastic strain applicable to the gauge area of the test piece		17
Annex C (informative) Biaxial tensile testing machine		19
Bibliography		23