

DIN EN ISO 20505:2025-05 (E)

Fine ceramics (advanced ceramics, advanced technical ceramics) - Mechanical properties of ceramic composites at room temperature - Determination of the interlaminar shear strength and shear modulus of continuous-fibre-reinforced composites by the compression of double-notched test pieces and by the Iosipescu test (ISO 20505:2023)

Contents		Page
	Foreword	iv
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Principle	4
	4.1 General.....	4
	4.2 Double-notched test.....	4
	4.3 Iosipescu test.....	4
5	Apparatus	5
	5.1 Test machine.....	5
	5.2 Load train.....	5
	5.2.1 Generalities.....	5
	5.2.2 Test fixtures.....	6
	5.3 Strain gauges for Iosipescu test specimen.....	8
	5.4 Data acquisition.....	9
	5.5 Dimension-measuring devices.....	9
6	Test specimens	9
	6.1 Double-notched test piece.....	9
	6.2 Iosipescu test piece.....	11
7	Test specimen preparation	12
	7.1 Machining and preparation.....	12
	7.2 Bonding of the gauges.....	12
	7.3 Number of test specimens.....	12
8	Test procedures	12
	8.1 Displacement rate.....	12
	8.2 Measurement of test specimen dimensions.....	13
	8.3 Testing technique.....	13
	8.3.1 Specimen mounting.....	13
	8.3.2 Measurements.....	14
	8.4 Test validity.....	15
9	Calculation of results	16
	9.1 Shear strength.....	16
	9.1.1 Double-notched test piece.....	16
	9.1.2 Iosipescu test piece.....	16
	9.2 Shear strain (Iosipescu test).....	17
	9.3 Shear-stress-shear-strain curves.....	17
	9.4 Elastic shear modulus, pseudo-elastic shear modulus.....	17
	9.5 Statistics.....	18
10	Report	18
	Annex A (informative) New materials: verification of shear stress field in the Iosipescu test	20
	Bibliography	21