DIN EN 16153:2013-06 (E)

Light transmitting flat multiwall polycarbonate (PC) sheets for internal and external use in roofs, walls and ceilings - Requirements and test methods

Contents

Page

Foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms, definitions and symbols 7
3.1 Terms and definitions 7
3.2 Symbols 11

4 Requirements 13
4.1 Visual appearance 13
4.2 Dimensions and mass per unit area and their tolerances 13
4.3 Spectral characteristics 14
4.4 Total solar energy transmittance 15
4.5 Impact resistance 15
4.6 Durability 16
4.7 Deformation behaviour 17
4.8 Airborne sound insulation 17
4.9 Thermal transmittance 17
4.10 Water vapour permeability 18
4.11 Water/air tightness 18
4.12 Linear thermal expansion 18
4.13 Reaction to fire 18
4.14 External fire performance 18
4.15 Resistance to fire 18
4.16 Net heat of combustion 19
4.17 Presence of functional layers 19
4.18 Dangerous substances 19
4.19 Resistance to fixings 19
4.20 Temporary protective coverings 19

5 Test and calculation methods 19
5.1 Dimensional tolerances and mass per unit area 19
5.2 Total solar energy transmittance 24
5.3 Test method of exposure to artificial ageing 28
5.4 Yellowness index 28
5.5 Small hard body impact resistance 29
5.6 Deformation behaviour 30
5.7 Airborne sound insulation 41
5.8 Reaction to fire 42

6 Evaluation of conformity 47
6.1 General 47
6.2 Initial type testing 47
6.3 Factory production control (FPC) 49
6.4 Initial inspection of factory and of FPC 51
6.5 Continuous surveillance of FPC 52

7 Marking and labelling 52

Annex A (normative) Magnification and reduction factors 54

A.1 General 54
A.2 Load duration 54
A.3 Ageing and environmental influences 54
A.4 Influence of temperature 54
A.5 Conversion factors 55
A.6 Marginal deformation 55

Annex ZA (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive 56

ZA.1 Scope and relevant characteristics 56

ZA.2 Procedures for the attestation of conformity of light transmitting flat multiwall polycarbonate sheets 59

ZA.3 CE marking and labelling 62

Bibliography 65