DIN EN 16254:2023-05 (E)

Adhesives - Emulsion polymer isocyanate (EPI) for load-bearing timber structures - Classification and performance requirements

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 7

4 Classification 8

5 Requirements 10
5.1 General 10
5.2 Bond strength in longitudinal tensile shear test 10
5.3 Resistance to delamination 11
5.4 Tensile strength perpendicular to the bond line after climatic treatment (acid damage test) 12
5.5 Effect of wood shrinkage on the shear strength 12
5.6 Static load test of multiple bond line specimens in compression shear 12
5.7 Creep deformation test at cyclic climate conditions with specimens loaded in bending shear 13
5.8 Long term sustained load test at cyclic climate conditions with specimens loaded perpendicular to the bond line ("Glass house test") 13
5.9 Delamination test on finger-jointed test pieces 13

6 Test methods 13
6.1 General 13
6.2 Determination of bond strength in longitudinal tensile shear test 13
6.3 Determination of resistance to delamination 13
6.4 Determination of tensile strength perpendicular to the bond line after climatic treatment (acid damage test) 13
6.5 Determination of the effect of wood shrinkage on the shear strength 13
6.6 Static load test of multiple bond line specimens in compression shear 14
6.7 Creep deformation test with specimens loaded in bending shear 14
6.8 Long term sustained load test at cyclic climate conditions with specimens loaded perpendicular to the bond line ("Glass house test") 14
6.9 Delamination test on finger-jointed test pieces 14

7 Working properties of the adhesive 14
7.1 General 14
7.2 Determination of working life under reference conditions 14
7.3 Determination of open assembly time under reference conditions 15
7.4 Determination of pressing time under reference conditions 15

8 Marking and labelling 15

Annex A (normative) Delamination test for bonding of finger-joints 16

A.1 Production of the specimens 16
A.2 Testing 17

A.3 Expression of results 17
A.4 Test report 18
A.4.1 Adhesive 18
A.4.2 Preparation of test pieces and testing procedure 18
A.4.3 Test results 18

Annex B (informative) Product limitations and glulam production control for beams produced with Small dimension adhesives 19

B.1 Product limitations 19
B.2 Control of the glue line thickness 19

Bibliography 20