

# DIN EN 17334:2021-06 (E)

## Glued-in rods in glued structural timber products - Testing, requirements and bond shear strength classification

---

<b>Contents</b>		<b>Page</b>
European foreword .....		4
1	Scope .....	5
2	Normative references .....	5
3	Terms and definitions .....	6
4	Symbols .....	8
5	General requirements .....	11
6	Classification .....	11
6.1	Adhesive .....	11
6.2	Rods, wood products and species .....	11
7	Bond strength of the adhesive-wood interface .....	11
7.1	General .....	11
7.2	Requirements .....	12
7.2.1	Bond strength in longitudinal tensile shear test .....	12
7.2.2	Resistance to delamination .....	12
7.2.3	Effect of wood shrinkage on the shear strength .....	12
7.2.4	Effect of compression shear and climatic changes .....	12
7.3	Test methods .....	12
7.3.1	Determination of bond strength in longitudinal tensile shear test .....	12
7.3.2	Determination of resistance to delamination .....	13
7.3.3	Determination of the effect of wood shrinkage on the shear strength .....	13
7.3.4	Determination of compression shear and climatic changes .....	13
8	Bond shear strength of glued-in steel rods .....	13
8.1	General .....	13
8.2	Specimen .....	13
8.2.1	Build-up, dimensions .....	13
8.2.2	Timber material .....	14
8.2.3	Steel rod .....	15
8.3	Procedure .....	16
8.3.1	Manufacture of bond .....	16
8.3.2	Test schemes .....	17
8.3.3	Test procedure .....	18
8.4	Expression of test results .....	20
8.5	Determination of declared characteristic bond shear strength values .....	21
9	Determination of bond temperature resistance .....	22
9.1	General .....	22
9.2	Specimen .....	23
9.3	Procedure .....	23
10	Bond creep rupture test at very high and low moisture content .....	26
10.1	General .....	26
10.2	Specimen .....	26
10.3	Procedure .....	26

<b>10.4</b>	<b>Requirement .....</b>	<b>26</b>
<b>11</b>	<b>Working properties of the adhesive .....</b>	<b>27</b>
<b>11.1</b>	<b>General .....</b>	<b>27</b>
<b>11.2</b>	<b>Determination of working life under reference conditions .....</b>	<b>27</b>
<b>11.3</b>	<b>Determination of open assembly time .....</b>	<b>27</b>
<b>11.4</b>	<b>Determination of curing time under reference conditions .....</b>	<b>27</b>
<b>11.5</b>	<b>Determination of time to fully cured state .....</b>	<b>28</b>
<b>11.5.1</b>	<b>General .....</b>	<b>28</b>
<b>11.5.2</b>	<b>Specimens and manufacture .....</b>	<b>28</b>
<b>11.5.3</b>	<b>Number and treatment of the specimens .....</b>	<b>30</b>
<b>11.5.4</b>	<b>Test procedures .....</b>	<b>30</b>
<b>11.5.5</b>	<b>Expression of results .....</b>	<b>31</b>
<b>11.5.6</b>	<b>Determination of time to fully cured state .....</b>	<b>31</b>
<b>11.5.7</b>	<b>Declared time to fully cured state .....</b>	<b>32</b>
<b>12</b>	<b>Test report .....</b>	<b>32</b>
<b>12.1</b>	<b>The adhesive .....</b>	<b>32</b>
<b>12.2</b>	<b>Preparation of specimens and testing procedure .....</b>	<b>33</b>
<b>12.3</b>	<b>Test results .....</b>	<b>33</b>
	<b>Annex A(informative) Design procedure for glued in rods in GLT, GST, LVL and CLT .....</b>	<b>34</b>
	<b>Annex B(informative) Common alternatives for adhesive infill in drilled holes .....</b>	<b>41</b>
	<b>Bibliography .....</b>	<b>42</b>