

THE INTERNATIONAL RESEARCH GROUP ON WOOD PROTECTION

Section 2

Testing Methodology and Assessment

Norway spruce

**Natural durable timber – Field test results
IRG/WP Durability Database**

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Disclaimer

The responsibility for the data presented in this paper falls to the authors exclusively. The data presented are raw test data and intended to get used for scientific purposes only.

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AIMS AND SCOPE OF THE IRG-WP DURABILITY DATABASE

The overall aim of the IRG-WP durability data base is the allocation of wood durability test results for comparative studies and re-analyses. The data base shall serve as pool for service life prediction and modelling and shall contribute to an enhanced understanding of wood durability. It is an open web-based platform for scientific exchange in the field of wood durability and wood protection.

It is NOT the aim of the data base to promote or denigrate any product or material. The data base will contain raw data only; no statistical evaluation will be included. Thus it will be the exclusive responsibility of the user to interpret the test results published in the data base.

For each data set, the full range of information about the test method, the test material, and other relevant parameters, is required to guarantee reliability of the data. For this reason every data set submitted is reviewed and checked for completeness of all relevant data.

The database allows submission of assessment data from all kinds of standardized and non-standardized wood durability tests.

Records of the IRG/WP Durability data base shall be cited as in the following example:

Brischke C., Meyer L. (2013) Douglas fir. Natural durable timber - Field test results. IRG/WP Durability Database. Stockholm: The International Research Group on Wood Protection, IRG/WP/DDB 13-00001.

INFORMATION

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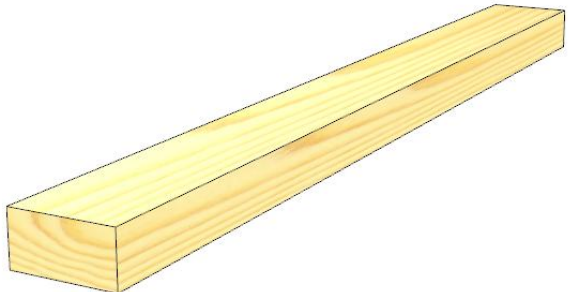
TESTED TIMBER

Trade name Norway spruce
Botanical name *Picea abies* Karst.
Origin Germany
Number of replicates 20

REFERENCE TIMBER

Trade name	Scots pine sapwood
Botanical name	<i>Pinus sylvestris</i> L.
Origin	Sweden
Number of replicates	20

TEST METHODS

Standard method	Graveyard test - EN252 (1989)
Alteration of standard (optional)	
Non-standard method	
Reference	EN 252 (1989) Field test method for determining the relative protective effectiveness of a wood preservative in ground contact. European Committee for Standardization
Specimen dimension and shape	25 x 50 x 500 mm ³
Sketch of specimen (optional)	
Rating scheme	0 (sound), 1 (slight decay), 2 (moderate decay), 3 (severe decay), 4 (failure) after EN 252 (1989)
Address of test site	Herrenhäuser Straße 2, 30419 Hannover
Geographic coordinates (optional)	52°39'51,34"N, 9°70'19,17"E
Start of test	April 12 2011
Last evaluation	March 30 2015
Status of test	still running

RESULTS

Assessment

Material	<i>Picea abies</i> Karst.					
Date	12.10.2011	12.04.2012	09.10.2012	12.04.2013	08.10.2013	12.04.2014
Assessment	1	2	3	4	5	6
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	1	3	4	4	4	4
2	2	2	3	4	4	4
3	2	3	3	4	4	4
4	2	4	4	4	4	4
5	3	3	4	4	4	4
6	4	4	4	4	4	4
7	1	1	2	2	2	2
8	3	4	4	4	4	4
9	0	0	2	2	3	3
10	4	4	4	4	4	4
11	2	2	2	3	4	4
12	2	3	3	4	4	4
13	3	4	4	4	4	4
14	1	1	1	1	1	1
15	1	2	3	3	4	4
16	1	1	3	3	4	4
17	1	1	3	3	3	3
18	1	1	2	2	2	3
19	2	4	4	4	4	4
20	2	4	4	4	4	4

Material	<i>Picea abies</i> Karst.					
Date	30.03.2015					
Assessment	7	8	9	10	11	12
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	4					
2	4					
3	4					
4	4					
5	4					
6	4					
7	3					
8	4					
9	3					
10	4					
11	4					
12	4					
13	4					
14	2					
15	4					
16	4					
17	4					
18	4					
19	4					
20	4					

Decay types

Material	<i>Picea abies</i> Karst.					
Date	12.10.2011	12.04.2012	09.10.2012	12.04.2013	08.10.2013	12.04.2014
Assessment	1	2	3	4	5	6
Replicate ID						
1						
2						
3						
4						
5						
6						
7	S	W	S	S	S	S
8	S,W	W				
9			W	S	W	W
10	W	W				
11	W	W		W	W	W
12	S	W	W, S	S		
13	W	W				
14	W, S	W, S	S		W	W
15	W	W, S	W	W	W	W
16	W	W	W	W	W, S	W, S
17	W, S	W	S	W	S	S
18	W	W, S	W, S	S	S	S
19	S	W				
20	S,W	W				

Material	<i>Picea abies</i> Karst.					
Date	30.03.2015					
Assessment	7	8	9	10	11	12
Replicate ID						
1						
2						
3						
4						
5						
6						
7	S					
8						
9	W					
10						
11	W					
12						
13						
14	W					
15	W					
16	W, S					
17	S					
18	S					
19						
20						

W = White rot, B = Brown rot, S = Soft rot

Assessment Reference

Material	<i>Pinus sylvestris</i> L.					
Date	12.10.2011	12.04.2012	09.10.2012	12.04.2013	08.10.2013	12.04.2014
Assessment	1	2	3	4	5	6
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	1	1	3	3	4	4
2	3	4	4	4	4	4
3	4	4	4	4	4	4
4	1	2	3	4	4	4
5	3	4	4	4	4	4
6	3	4	4	4	4	4
7	2	3	4	4	4	4
8	2	2	3	4	4	4
9	2	3	4	4	4	4
10	4	4	4	4	4	4
11	3	3	3	4	4	4
12	1	1	1	2	4	4
13	0	1	2	2	4	4
14	1	3	3	3	4	4
15	3	3	4	4	4	4
16	1	2	3	4	4	4
17	2	4	4	4	4	4
18	1	2	4	4	4	4
19	1	2	4	4	4	4
20	2	3	4	4	4	4

Material	<i>Pinus sylvestris</i> L.					
Date	30.03.2015					
Assessment	7	8	9	10	11	12
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	4					
2	4					
3	4					
4	4					
5	4					
6	4					
7	4					
8	4					
9	4					
10	4					
11	4					
12	4					
13	4					
14	4					
15	4					
16	4					
17	4					
18	4					
19	4					
20	4					

Decay types

Material	<i>Pinus sylvestris</i> L.					
Date	12.10.2011	12.04.2012	09.10.2012	12.04.2013	08.10.2013	12.04.2014
Assessment	1	2	3	4	5	6
Replicate ID						
1	S,W	S	W,S	W,S	W,S	W,S
2	S,W	S	S	S	S	S
3	W	W	W	W	W	W
4	W,S	S	S	S	S	S
5	W	W,S	W,S	W,S	W,S	W,S
6	S,W	W,S	W,S	W,S	W,S	W,S
7	W	W	W,S	W,S	W,S	W,S
8	W,S	W	W	W	W	W
9	S	S	W,S	W,S	W,S	W,S
10	W	W	W	W	W	W
11	S	S	S	S	S	S
12	S	W,S	W,S	S	S	S
13		S	W,S	S	S	S
14	S	W	W,S	W,S	W,S	W,S
15	S,W	W,S	S	S	S	S
16	S,W	S	W,S	S	S	S
17	S,W	W,S	W,S	W,S	W,S	W,S
18	S	S	W,S	W,S	W,S	W,S
19	S	S	S	S	S	S
20	S	W	W,S	W,S	W,S	W,S

Material	<i>Pinus sylvestris</i> L.					
Date	30.03.2015					
Assessment	7	8	9	10	11	12
Replicate ID						
1	W,S					
2	S					
3	W					
4	S					
5	W,S					
6	W,S					
7	W,S					
8	W					
9	W,S					
10	W					
11	S					
12	S					
13	S					
14	W,S					
15	S					
16	S					
17	W,S					
18	W,S					
19	S					
20	W,S					

W = White rot, B = Brown rot, S = Soft rot