IRG/WP/DDB 13-00003

THE INTERNATIONAL RESEARCH GROUP ON WOOD PROTECTION

Section 2 **Testing Methodology and Assessment**

European beech

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

Submission Date	31.01.2013

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TESTED TIMBER

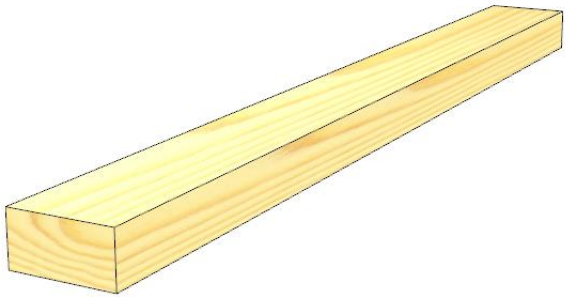
Trade name	European beech
Botanical name	*Fagus sylvatica* L.
Origin	Germany
Number of replicates	10

Sampling (optional)	
Timber quality (optional)	

REFERENCE TIMBER

Trade name	Scots pine sapwood
Botanical name	*Pinus sylvestris* L.
Origin	Sweden
Number of replicates	10
Sampling (optional)	
Timber quality (optional)	

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 mm³
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	June 15 2008
Last evaluation	September 22 2010
Status of test	terminated

RESULTS

Assessment

Material	***Fagus sylvatica* L.**					
Date	**15.09.2008**	**18.12.2008**	**16.03.2009**	**15.06.2009**	**15.09.2009**	**16.12.2009**
Assessment	1	2	3	4	5	6
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	1	1	4	4	4	4
2	4	4	4	4	4	4
3	2	2	3	3	4	4
4	2	3	4	4	4	4
5	2	2	2	4	4	4
6	1	2	4	4	4	4
7	4	4	4	4	4	4
8	4	4	4	4	4	4
9	1	2	3	3	4	4
10	2	4	4	4	4	4

Material	***Fagus sylvatica* L.**					
Date	**17.03.2010**	**17.06.2010**	**22.09.2010**			
Assessment	7	8	9	10	11	12
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	4	4	4			
2	4	4	4			
3	4	4	4			
4	4	4	4			
5	4	4	4			
6	4	4	4			
7	4	4	4			
8	4	4	4			
9	4	4	4			
10	4	4	4			

Decay types

Material	***Fagus sylvatica* L.**					
Date	**15.09.2008**	**18.12.2008**	**16.03.2009**	**15.06.2009**	**15.09.2009**	**16.12.2009**
Assessment	1	2	3	4	5	6
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	S	S	S	S	S	S
2	SW	SW	SW	SW	SW	SW
3	SW	S	S	S	S	S
4	SW	S	SW	SW	SW	SW
5	SW	S	S	S	S	S
6	S	S	SW	SW	SW	SW
7	S	SW	SW	SW	SW	SW
8	SW	SW	SW	SW	SW	SW
9	SW	S	S	S	S	S
10	S	SW	SW	SW	SW	SW

Material	***Fagus sylvatica* L.**					
Date	**17.03.2010**	**17.06.2010**	**22.09.2010**			
Assessment	7	8	9	10	11	12
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	S	S	S			
2	SW	SW	SW			
3	S	S	S			
4	SW	SW	SW			
5	S	S	S			
6	SW	SW	SW			
7	SW	SW	SW			
8	SW	SW	SW			
9	S	S	S			
10	SW	SW	SW			

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

Assessment Reference

Material	***Pinus sylvestris* L.**					
Date	**15.09.2008**	**18.12.2008**	**16.03.2009**	**15.06.2009**	**15.09.2009**	**16.12.2009**
Assessment	1	2	3	4	5	6
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	0	1	0	1	4	4
2	0	1	2	3	4	4
3	1	1	2	3	3	4
4	0	0	0	0	1	3
5	1	1	1	1	1	2
6	0	0	0	0	0	2
7	0	0	0	0	4	4
8	3	3	3	4	4	4
9	1	1	1	4	4	4
10	4	4	4	4	4	4

Material	***Pinus sylvestris* L.**					
Date	**17.03.2010**	**17.06.2010**	**22.09.2010**			
Assessment	7	8	9	10	11	12
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	4	4	4			
2	4	4	4			
3	4	4	4			
4	4	4	4			
5	4	4	4			
6	2	2	4			
7	4	4	4			
8	4	4	4			
9	4	4	4			
10	4	4	4			

Decay types reference

Material	***Pinus sylvestris* L.**					
Date	**15.09.2008**	**18.12.2008**	**16.03.2009**	**15.06.2009**	**15.09.2009**	**16.12.2009**
Assessment	1	2	3	4	5	6
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1		S		S	W	W
2	SW	W	W	W	W	W
3	S	W	W	SW	W	WB
4					S	SW
5	S	S	S	SW	S	W
6						SW
7					W	W
8	W	W	W	W	W	W
9	S	S	W	W	W	W
10	W	W	W	W	W	W

Material	***Pinus sylvestris* L.**					
Date	**17.03.2010**	**17.06.2010**	**22.09.2010**			
Assessment	7	8	9	10	11	12
Replicate ID	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]	[0-4]
1	W	W	W			
2	W	W	W			
3	WB	WB	WB			
4	S	S	S			
5	S	S	S			
6	S	S	S			
7	W	W	W			
8	W	W	W			
9	W	W	W			
10	W	W	W			

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

REFERENCES

Brischke C, Meyer L, Olberding S (2013) Durability of wood exposed in ground–Comparative field trials with different soil substrates. International Biodeterioration & Biodegradation. http://dx.doi.org/10.1016/j.ibiod.2013.06.022

Olberding S (2010) Untersuchung verschiedener Standortparameter auf die Gebrauchsdauer von Holz im Erdkontakt. Master thesis, Leibniz University Hannover, Faculty of Architecture and Landscape Science, Hannover