

**Norsk Treteknisk Institutt (NTI), Sveriges Tekniska Forskningsinstitut (SP),
Statens Tekniska Forskningscentral (VTT), Dansk Teknologisk Institut (DTI)**

Adhesives tested and approved for production of structural glulam and fingerjointed structural timber in Norway, Sweden, Finland and Denmark

**Norsk Treteknisk Institutt
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Replaces edition dated 2015-05-05

Approval has been given for a period of 5 years. At expiration of each 5 year period, confirmation is needed from the adhesives manufacturer that the composition of the adhesive system has not been changed since the adhesive system was approved the first time.

Footnotes

- 1) The adhesive can be used in separate spreading of glue and hardener for gluing of lamellae (the production line must be approved separately).
- 2) The adhesive is approved for finger jointing with 5 % water addition and/or with 0,005 % of the colorant "Basonyl Red".
- 3) The adhesive is approved for finger jointing of spruce and pine, as well as pine pressure impregnated with CCA-salts, with 5 % water addition.
- 4) The adhesive is approved for finger jointing of spruce and unimpregnated pine with 5 % water addition.
- 5) The adhesive system is approved for finger jointing of Nordic softwood where glue and hardener is applied in mixed form.
- 6) The adhesive system is approved for separate application of glue and hardener when finger jointing Nordic softwood.
The equipment for glue application must be approved separately, both regarding coverage, amount and mixture/mixing ratio. The national control organs must through testing make sure that sufficient dry strength is achieved, and that the glue line's final water durability is as required.
- 7) The adhesive is approved for finger jointing with 5 % water addition and/or 22 % of colorant (2,0 % Pintosol E-WL 41 + 0,2 % Colanyl Schwartz PR 130).
- 8) The adhesive is suited for "Contactless" application (strings across the finger front). System for application and safety must be approved separately by the national control authority.
- 9) The adhesive is also tested according to EN 392 (shear strength) and EN 302-2 (delamination) with glue line thickness 2 mm. The system is thus suited for certain types of gluing where a thicker glue line than normal must be expected.
- 10) The adhesive is tested at 90 °C according to EN 15416-2 as stated in EN 301:2013.
- 11) The adhesive is tested at 90 °C according to EN 15416-2 as stated in EN 15425.
- 12) For use in gap filling glue lines not exceeding 1,5 mm in thickness. Typical for sideways gluing of beams.

Note 1: The term finger jointing includes both glulam lamellae and finger jointed structural timber.

Remarks

Most of the adhesives are accepted as CE approved according to the intention in EN 14080. Such an acceptance is given in a separate column.

Adhesive of type 1 as defined in EN 301

Resin	Hardener	Supplier	Hardener %	Last approved	EN 14080
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Unimpregnated European oak and ash	Unimpregnated softwood (Softwood as defined in relevant test standard)	Birch (Betula pendula)	Impregnated Pine					
			CCA (type B and C)	CC	Tanalith E	Wolmanit CX-8	Scanimp KF	Wolkit KD-10

1 component Polyurethane (PUR)

Adhesives marked for EN 14080 are tested according to i EN 15425

Purbond	HB 110	-	Purbond AG	-	2014	•	•								
"	HB 221	-	"	-	2014	•	•								
"	HB 230	-	"	-	2014	•	•								
"	HB 360	-	"	-	2014	•	•								
"	HB 440	-	"	-	2014	•	•								
"	HB 530	-	"	-	2014	•	•								
"	HB S-line	-	"	-	2014	•	•								
Prefere	6000	-	Dynea AS	-	2012	•	•								
"	6001	-	"	-	2012	-	•								
Jowapur	686.60	-	Jowat AG	-	2010	•	•								
"	686.70	-	"	-	2014	-	•								
Casco Adhesives	2010	-	11) Casco Adhesives AB	-	2014	•	•								
"	2040	-	"	-	2015	•	•								
Kestopur	1010	-	Kiilto OY	-	2012	•	•								
"	1015	-	"	-	2012	•	•								
"	1020	-	"	-	2012	•	•								
"	1025	-	"	-	2012	•	•								
"	1030	-	"	-	2009	•	•								
"	1050	-	"	-	2012	•	•								
Mirapur	9541	-	Kiilto OY	-	2012	•	•								
"	9542	-	"	-	2012	•	•								
"	9543	-	"	-	2012	•	•								

Note 4 Maximum glue line thickness in use is 0,3 mm.

Note 5 HB S-line from Purbond includes all systems having a reaction speed from PURBOND HB S109 up to PURBOND HB S709.

Emulsion Polymerised Isocyanate (EPI) - approved for use in service class 1 and 2

Prefere	6151	6651	8) Dynea AS	15	2012	•	•								
"	6182	6682	"	15	2012	•	•								

Note 6 6151/6651: Maximum glue line thickness in use is 0,2 mm. Variation in lamellae thickness shall be within the

mean value $\pm 0,1$ mm, and the difference in thickness across the lamellae width shall be less than 0,10 % of the width.

6182/6682: Production terms and area for application as for approved PUR adhesives (maximum glue line thickness in use is 0,3 mm).

Adhesives given separate approval for finger jointing of structural timber

Adhesives of Type 1 as defined in EN 301 for the use in service class 1, 2 and 3.

Resin	Hardener	Supplier	Hardener %	Last approved	EN 14080
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Unimpregnated European oak and ash	Unimpregnated softwood (Softwood as defined in relevant test standard)	Birch (Betula pendula)	Impregnated Pine					
			CCA (type B and C)	CC	Tanalith E	Wolmanit CX-8	Scanimp KF	Wolkit KD-10

Emulsion Polymerised Isocyanate (EPI)

Casco Adhesives	1989	1993	Casco Adhesives AB	15	2014	-	•								
Kestokol	WR11	WR	Kiilto OY	15	2009	-	•								
Prefere	6150	6650	Dynea AS	15	2012	-	•								

Melamine-Urea-Formaldehyde (MUF)

Kauramin	683	688	BASF	30 - 100	2012	-	•								
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1 component Polyurethane (PUR)

Jowapur	686.20	-	Jowat AG	-	2010	-	•								
"	680.20	-	"	-	2011	-	•								
Purbond	HB S-line	-	Purbond AG	-	2014	-	•								

Note 7 HB S-line from Purbond includes all systems having a reaction speed from PURBOND HB S049 up to PURBOND HB S109.