

## LOCTITE® HB S109 ECO PURBOND

January 2024

This technical data sheet was coordinated with MPA University Stuttgart, an independent material testing laboratory.

It is only applicable in accordance with application instructions for face bonding or finger jointing LOCTITE® HB S PURBOND line, respectively.

<b>Technology</b>	Polyurethane
<b>Product type</b>	Assembly glue
<b>Application</b>	Engineered wood
<b>Components</b>	One-component
<b>Basis</b>	Isocyanate prepolymer
<b>Condition</b>	Solvent-free, formaldehyde-free
<b>Appearance</b>	Beige, liquid, (after curing: wood tone, solid)
<b>Cure</b>	Air humidity and moisture in the wood

### Application areas

- Manufacturing of engineered wood products in service classes 1, 2 and 3 according to EN 1995-1-1
- Finger joint, e.g. flange-web, web-web connections in I-joists
- Face bonding, e.g. CLT, glued laminated timber, glued solid timber, edge bonds and rib elements according to ETAG 019



### Wood species (approved according to EN 15425)

Face bonding without a primer:

- European spruce (*Picea abies*)
- European silver fir (*Abies alba*)
- Scotch pine (*Pinus sylvestris*)

Face bonding with LOCTITE® PR 3105 PURBOND primer:

- Douglas fir (*Pseudotsuga menziesii*)
- Radiata pine (*Pinus radiata*)
- Loblolly pine (*Pinus taeda L.*)
- Black spruce (*Picea mariana*)
- Maritime pine (*Pinus pinaster*)

Face bonding with LOCTITE® PR 7010 PURBOND primer:

- European larch (*Larix decidua*)
- European larch (*Larix decidua*) with European spruce (*Picea abies*)
- Siberian larch (*Larix sibirica spp.*)

Finger jointing without a primer:

- European spruce (*Picea abies*)
- European silver fir (*Abies alba*)
- Scotch pine (*Pinus sylvestris*)
- Siberian larch (*Larix sibirica spp.*)
- European larch (*Larix decidua*)
- Douglas fir (*Pseudotsuga menziesii*)
- Maritime pine (*Pinus pinaster*)
- Loblolly pine (*Pinus taeda L.*)
- Radiata pine (*Pinus radiata*)

### Product properties

- Strong, non-brittle adhesive film
- Resistant to weak alkalis, acids and solvents
- Good flow properties
- Fluorescent
- Classified as **EN 15425 I 90 GP 0,3 w** adhesive
- Approved and registered to various certificates and registrations, see section Certifications & Registrations

### Technical data

#### LOCTITE® HB S109 ECO PURBOND:

Solid Content, %	100
free from fibers and abrasive fillers	
Viscosity, Brookfield - 20 °C, mPa.s	
Spindle 6, speed 20 rpm	
- measured between 16 - 36 hours after production	20 000 - 32 000

### Typical properties

#### LOCTITE® HB S109 ECO PURBOND:

Density, g/cm <sup>3</sup>	1.16
Maximal assembly time, minutes	
20 °C / 65% relative air humidity (RH) and a wood moisture content of 12%	10
Minimal press time (face bonding) / curing time (finger joints) at 20°C and 12% wood surface moisture content, bond line thickness:	
- of up to 0.1 mm, minutes	25
- of up to 0.1 - 0.3 mm, minutes	75
- of up to 0.1 mm with approval of Henkel Engineered Wood and the certification body, minutes	20

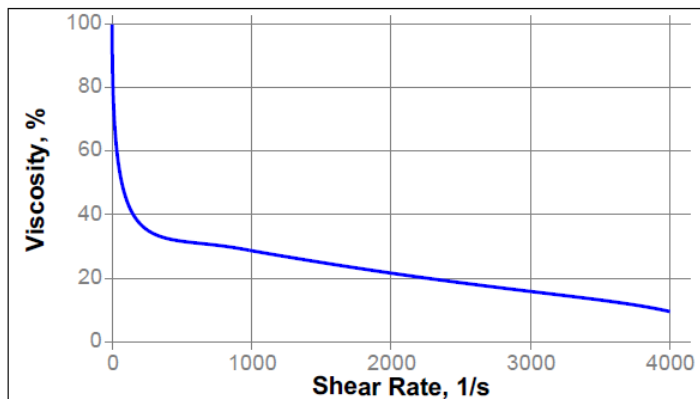
Time to reach final bonding strength at 20 °C with 65% RH and a wood moisture content of 12%, bond line thickness:

- of max. 0.1 mm, hours 1
- of max. 0.1 - 0.3 mm, hours 3

The above times depend on production parameters (moisture/temperature of wood and air; glue line thickness), application type and system. An optimization in accordance with Henkel Engineered Wood is possible.

Slight foaming of the adhesive during hardening is caused by the curing reaction and is normal.

The adhesive shows shear thinning behaviour. Please see an exemplary viscosity – shear rate – relationship in the graph below.



#### Preliminary statement

Prior to use it is necessary to read the **Safety Data Sheet** for information about precautionary measures and safety recommendations. Also, for chemical products exempt from compulsory labeling, the relevant precautions should always be observed. Please also refer to the local safety instructions and contact Henkel for analytical support.

#### Application

For safe use of LOCTITE® HB S109 ECO PURBOND, please refer to this document as well as the specific Application Instructions for face bonding and/or finger jointing of LOCTITE® HB S PURBOND line, respectively. A suitable quality control system is recommended.

#### Protection and cleaning

##### Safety precautions

The use of protective gloves is highly recommended. Best practice makes gloves and safety glasses mandatory when handling the adhesive or any chemicals associated with the manufacturing process.

##### Cleaning

Prior to bringing a plant into initial operation, Henkel recommends the use of release agents to prevent adhesive adhering to equipment and tools, e.g. LOCTITE RELEASE AGENT PURBOND. Henkel can make recommendations upon request, but all release agents should be appropriate for the adhesive and materials to which they are applied.

#### Certifications & registrations

Supporting the bioeconomy: at the beginning of the supply chain, bio-based and fossil materials have been mixed in an ISCC certified mass balance approach.

63% of the organic mass<sup>1</sup> of LOCTITE® HB S ECO PURBOND is linked to ISCC PLUS certified materials via mass balance approach using bio-circular feedstock.

<sup>1</sup>Organic materials are excluding all inorganic fillers.



Classified as **EN 15425 I 90 GP 0,3 w** according to standard EN 15425:2017. Compliance with EN 14080:2013 and EN 15497:2014 confirmed by MPA University Stuttgart. The adhesive can be used for the manufacture of glued laminated timber according to EN 14080:2013, of structural finger jointed solid timber according to EN 15497:2014, cross laminated timber (CLT) according to EN 16351:2021 or EAD 130005-00-0304.

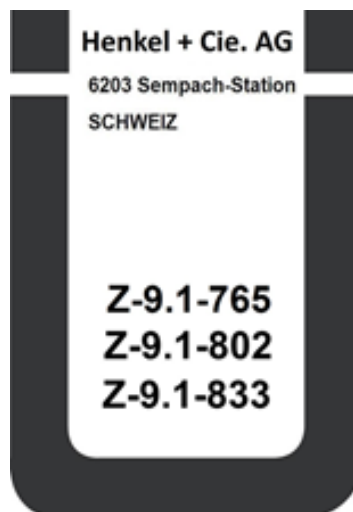
National Technical Approval by the DIBt (Deutsches Institut für Bautechnik) for the LOCTITE® HB S109 ECO PURBOND adhesive for the fabrication of load-bearing engineered wood components.

Certification number:

**Z-9.1-765**

**Z-9.1-802**

**Z-9.1-833**



National Technical Approval No. ATG 12/2888 by the Union Belge pour l'Agrément Technique dans la Construction (UBAtc).



Classification Type I pursuant to EN 15425 (2008) of LOCTITE® HB S109 ECO PURBOND adhesive for finger-jointed and glue-laminated load-bearing wood structures, by the FCBA based on following documents:

FCBA n° LBO/GL/MP403/09/274

FCBA n° LBO/GL/MP403/09/275

FCBA n° LBO/GL/MP403/09/276



Fulfils the requirements as a Type I adhesive in accordance with AS/NZS 4364:2010 and is suitable for Service Class 3 applications.

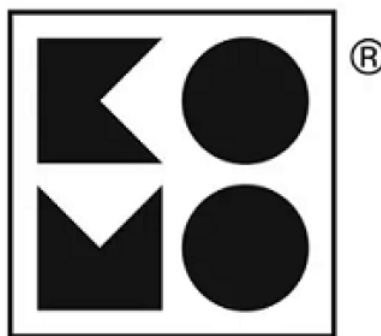
Classification for VOC, formaldehyde, ammonia and odor:

Fulfils the M1-criteria for low-emission building materials

Issued by The Building Information Foundation RTS sr



KOMO® (lijmen DHBC) product certificate nr. 21008. Complies with the BRL 2338 standard, "Adhesives for load-bearing wooden building constructions".



#### Storage

Store in the original tightly closed packaging in a cool, dry place.

#### Shelf life

Shelf-life (in unopened original packaging), months 12

#### Classification:

Please refer to the corresponding **Safety Data Sheet** for details on:

**Hazardous Information**

**Transport Regulations**

**Safety Regulations**

#### Additional information

#### Disclaimer

The information provided in this Technical data sheet (TDS) including the recommendations for use and application of the product are based on our knowledge and experience of the product as at the date of this TDS. The product can have a variety of different applications as well as differing application and working conditions in your environment that are beyond our control. Henkel is, therefore, not liable for the suitability of our product for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you carry out your own prior trials to confirm such suitability of our product. Any liability in respect of the information in the Technical data sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law.

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Reference 1