

# LOCTITE® CR 821 ECO

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This technical data sheet was coordinated with MPA Bau, TU München, an independent material testing laboratory.

It is only applicable in accordance with application instructions for bonding steel rods in wooden components with LOCTITE® CR PURBOND adhesives.

## Product description

LOCTITE® CR 821 PURBOND provides the following product characteristics:

<b>Technology</b>	Polyurethane
<b>Product type</b>	Non-foaming 2C-adhesive
<b>Application</b>	Engineered wood and wood-steel-bonds
<b>Components</b>	Two-component
<b>Condition</b>	Solvent-free, formaldehyde-free
<b>Appearance</b>	Beige, liquid, (after curing: wood tone, solid)

## Application areas

- Bonding of steel rods as described in corresponding application instructions
- Manufacturing of engineered wood products in service classes 1 and 2 according to EN 1995-1-1
- Applicable up to a temperature of 60 °C
- 60% of the organic mass of LOCTITE® CR 821 ECO B (Component B) is linked to ISCC PLUS certified materials via mass balance approach using bio-circular feedstock.

## Wood species (approved according to EN 17334:2021)

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

## Product properties

- Resistant to weak alkalis, acids and solvents
- Good flow properties
- Approved and certified according to EN 17334:2021 and with German national technical approval/construction technique permit Z-9.1-896, see section Certifications & Registrations

## Technical data

### LOCTITE® CR 821 ECO:

Solid content, %	100
Viscosity, Brookfield - 20°C, mPa·s	
Component A	
Spindle 6, speed 20 rpm	
- measured after 1 minute	15 000 - 25 000
Component B	
Spindle 2, speed 20 rpm	
- measured after 1 minute	200 - 500
Mixture (A + B)	
Spindle 6, speed 20 rpm	
- measured after 1 minute	1 500 - 4 500
Mixing ratio:	
by volume proportions A:B	2:1 or
by weight proportions A:B	2.24:1
<b>Typical properties</b>	
Density, g/cm <sup>3</sup>	
Component A	Approx. 1.39
Component B	Approx. 1.24
Mixture (A + B)	Approx. 1.34
Maximum pot life, minutes:	
20 °C with 65% relative humidity (RH)	30
Maximum insertion, minutes:	
20 °C with 65% relative humidity (RH) and wood moisture content of 6 - 18%	16
Gel time, minutes:	
20 °C with 65% relative humidity (RH) after pot life has expired	20
Resting time at 20 °C, 65% RH and a wood moisture content of 12%:	
after the gel time has elapsed, hours	7

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

100% final bonding strength, days	7
75% final bonding strength, days	2

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.

#### Material properties, cured adhesive:

Shore D Hardness: DIN 53505	N/A
Tensile Strength, N/mm <sup>2</sup> EN 17334	39
Shear strength, N/mm <sup>2</sup> EN 17334	30
Modulus of elasticity, N/mm <sup>2</sup>	Approx. 1 000
Use up to, °C	60

#### Directions for use

##### 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 the safe application of LOCTITE® CR 821 PURBOND, please refer to this document and the application instructions for bonding steel rods with LOCTITE® CR PURBOND adhesives. 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 mixing process.

###### Cleaning

Liquid adhesive can be easily removed, e.g. with commercial spirit or acetone.

Cured adhesive can only be removed mechanically.

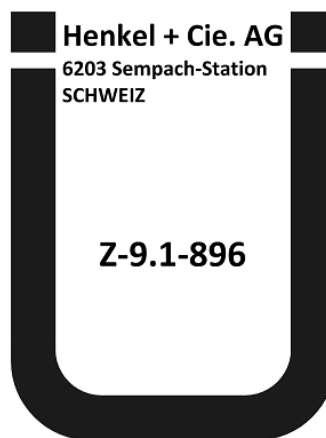
Before a system is put into operation, Henkel recommends the use of release agents to prevent adhesion of the adhesive to equipment and tools, e.g. LOCTITE® RELEASE AGENT PURBOND. Henkel can make recommendations upon request, but all release agents should be suitable for the adhesive and the materials to which they are applied.

#### Certifications & registrations

The adhesive can be used for bonding steel rods with diameters from 6 mm to 30 mm in wooden components.

Certified according to EN 17334:2021 for load-bearing timber structures in service classes 1 and 2 according to EN 1995-1-1 which are loaded predominantly static or quasi static according to EN 1990 and EN 1991-1-1.

2C PUR adhesive LOCTITE® CR 821 ECO for bonding steel rods into wooden parts. Certification number: **Z-9.1-896**



Classification for VOC, formaldehyde, ammonia and odor:  
Fulfills the M1-criteria for low-emission building materials  
Issued by The Building Information Foundation RTS sr



##### Storage

Optimum storage temperature: 15 - 25 °C.

Cartridges must be stored horizontally.

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

##### Shelf life

Shelf-life (in unopened original packaging), months 6

##### 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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