

# KLEIBERIT PUR 642.1 Hardener 643.1

**2C, solvent-free polyurethane adhesive  
for foil lamination**

## Fields of application

- KLEIBERIT 642.1 with Hardener 643.1 is suitable for foil lamination for the production of flexible packaging

## Properties of the adhesive

**Base:** isocyanate  
**Color:** transparent/light yellow  
**Density at 45°C:** approx. 1.14 g/cm<sup>3</sup>  
**Viscosity at 45°C**  
**Brookfield HB-DV III (Sp. 21, 10 rpm):**  
 1,500 ± 500 mPa·s

**Identification:** identification required according to EU regulations; contains diphenyl-4,4'-diisocyanate, (see our safety data sheet)

## Properties of the hardener

**Base:** polyol  
**Color:** transparent  
**Density at 20°C:** approx. 1.14 g/cm<sup>3</sup>  
**Density at 45°C:** approx. 1.11 g/cm<sup>3</sup>

## Viscosity (Brookfield RV-DV III)

**at 20°C (Sp. 4, 20 rpm):** 2,000 ± 500 mPa·s  
**at 45°C (Sp. 2, 20 rpm):** approx. 400 mPa·s

## Properties of the adhesive with the hardener

**Mixing ratio:**  
 KLEIBERIT 642.1 : Hardener 643.1 =  
 100 : 40 parts by weight

The combination of KLEIBERIT 642.1 with Hardener 643.1 complies with FDA 21 CFR § 175-105, the EU-Regulation Nr. 10/2011, as well as BfR recommendation Chapter XXVIII

## Viscosity at 45°C

### Brookfield HB-DV III (Sp. 27, 10 rpm):

start	approx. 1,500 mPa·s
after 15 min	approx. 1,700 mPa·s
after 30 min	approx. 3,400 mPa·s
after 60 min	approx. 11,000 mPa·s

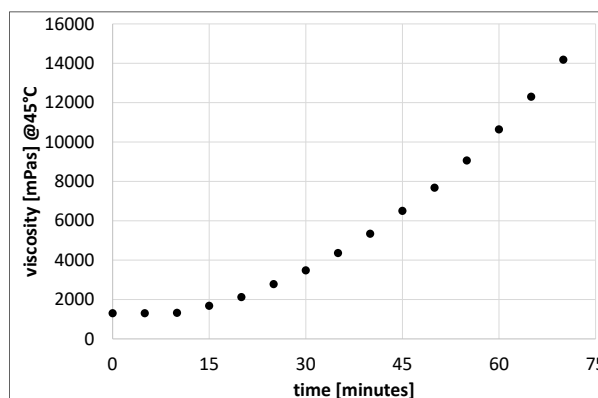


Diagram: viscosity development of mixture at 45°C

\*The viscosity development depends heavily on the viscosity of the components, the processing temperatures and the humidity. It shows a trend.

## Application techniques

KLEIBERIT 642.1 is moisture sensitive and should not be exposed to moisture prior to handling.

Mixing and dosing of KLEIBERIT 642.1 with Hardener 643.1 must take place in a suitable 2C mixing and dosing unit.

Further processing and application takes place with a suitable lamination machine with a multiple-roller application system.

The application temperature must be adjusted to the processing conditions and is normally 30-50°C.

The coat weight depends on the substrates, the application as well as the color of ink. Typical coat weight is 1.1 – 2.5 g/m<sup>2</sup>.

The user must determine, document and consistently control the ideal conditions on-site for each application.

## **KLEIBERIT PUR 642.1 Hardener 643.1**

### **Cleaning**

The application unit must be cleaned after longer downtime (>30 min).  
Cured hotmelt can only be removed mechanically.

The rollers can be cleaned with cleaned with ethyl acetate or KLEIBERIT Cleaner 828.7. The cleaner must be tested for suitability prior to use. Especially for use on rubber rollers.

Wear suitable protective equipment and ensure sufficient ventilation when working with cleaners (see the safety data sheet).

### **Packaging**

#### **KLEIBERIT 642.1**

plastic canister, 20 kg net  
metal drum, 200 kg net

#### **KLEIBERIT Hardener 643.1**

plastic canister, 20 kg net  
metal drum, 200 kg net

Additional packaging sizes available upon request.

### **Storage**

KLEIBERIT 642.1 can be stored in factory sealed containers at 20°C for 9 months.

KLEIBERIT Hardener 643.1 can be stored in factory sealed containers at 20°C for 12 months

The ideal storage temperature is 15-25°C. Higher temperatures shorten the shelf life.  
KLEIBERIT 642.1 and 643.1 are not frost sensitive at temperatures above -20°C

Version XI 0416; replaces previous versions

#### **Adhesive and Waste Disposal**

##### **Waste Code 080409**

Our containers are made of recyclable material. Well drained containers can be recycled.

#### **Service**

Our application department may be consulted at any time without obligation. The statements made herein are based on our experience gained to date. They are to be considered as information without obligation. Please test and establish for yourself the suitability of our products for your particular purposes. No liability exceeding the value of our product can be derived from the foregoing statements. This also applies to the technical consultancy service which is rendered free of charge and without obligation.