

Edgebanders Cleaning and adhesive change



Jowat® flushing agents purge adhesive remnants from hoses, melter, and application nozzles, and stop the reaction of PUR hot melt adhesives

Jowat® cleaner detaches adhesive remnants in the application system



Edgebanders – Cleaning and adhesive change

A fully functional adhesive application system and melter are of major importance for a smooth and reproducible adhesive application. The cleaning effort varies depending on the application system and unit, and depends largely on the type of adhesive used. If the old and the new hot melt adhesive have different chemical bases, it is necessary to clean the equipment more thoroughly. Before the cleaning of the application system is started, it must be tested whether the adhesives are compatible with each other as well as with the Jowat® flushing agents and cleaners. Especially in closed application systems it should be ensured that the PUR hot melt adhesive and the Jowat® flushing agent are melted evenly, to prevent plugged hoses and nozzles due to an unwanted reaction. If the processed adhesive was a PUR hot melt, it is especially important that the system be cleaned before extended downtimes (e.g. on weekends, holidays, periodic shutdowns, etc.). Jowat supplies a range of flushing agents and cleaners for that purpose.

Modern PUR hot melt adhesives for edgebanding are characterised by a moderate reactivity and thus a relatively slow chemical crosslinking process. In many cases, the PUR hot melt adhesive can therefore remain in the heated tank overnight without the system having to be cleaned. However, this is not a universal characteristic and depends on the individual PUR hot melt product. Please contact a specialist from Jowat to check whether the adhesive used in your application generally also provides this processing advantage.

1. Melter (pre-melter) and hoses

The primary task of a flushing agent is to physically push out the adhesive from the hoses and the application unit, and therefore to purge product remnants from the system. Due to the general flow behaviour of liquids (cf. figure 1, on the right) the flow velocity is significantly lower at the walls compared to the centre of the hose. To ensure that the hoses are cleaned thoroughly, it is thus necessary to use a sufficient amount of flushing agent.

Apart from the flow velocity, viscosity also plays a role in the purging process. If the viscosity of the flushing agent is too low, it will only purge the adhesive in the centre of the hose (cf. figure 3). Under those circumstances, it will not be possible to remove all the adhesive. To find out the viscosity of the flushing agent and the hot melt adhesive, please refer to the corresponding Technical Data Sheets (available upon request).

The unit is to be emptied and flushed with the flushing agent Jowat® 930.74/.94 until all PUR hot melt adhesive has been extruded from the system. Remnants of flushing agent should remain in all adhesive-carrying machine parts. When the flushing agent cools, it will shrink, thus increasing the cleaning effect.

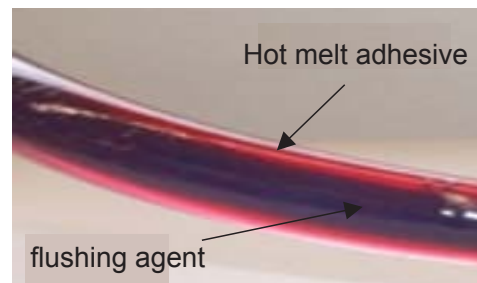


Figure 1

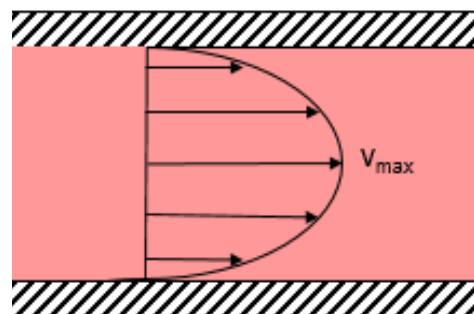


Figure 2

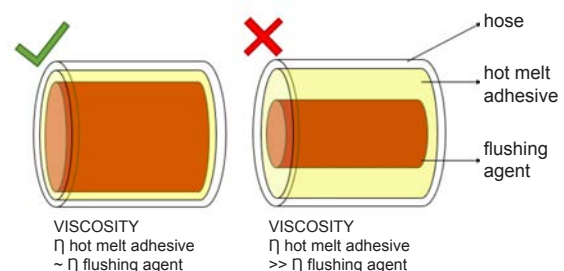


Figure 3



2. Melting tank (glue pot)

At processing temperature, drain as much as possible of the PUR hot melt adhesive from the melting tank.

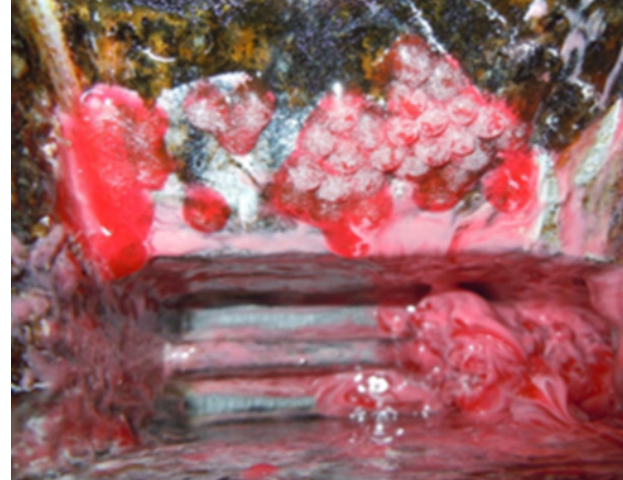
Fill the suitable Jowat® flushing agent (depending on the adhesive type; see chapter 5) into the melting tank. To increase the cleaning effect, use a wooden spatula to spread the granulate in the hot tank before melting, and carefully remove as much as possible of the PUR hot melt remnants from the walls. Be careful not to damage the coating on the walls. Wait until all the flushing agent has melted.

Allow the flushing agent to soak and circulate between the melting tank and the application roller for at least half an hour at processing temperature of the previously used hot melt adhesive. During this process, the application roller must rotate to prevent the adhesive from flowing into the machine.

After the flushing agent has soaked sufficiently, empty the tank. Alternatively, turn off the adhesive system to prepare for extended downtime. In the latter case, the cold flushing agent remains in the melting tank.

When the unit is started up again, it is recommended to clean the application roller using a soft brass brush and pressurised air (from a hand gun). The mechanical cleaning must be carried out in a way as to ensure that the anti-stick coating on the application roller and on the melting tank will not be damaged. Please also observe all recommendations of the equipment manufacturer.

Flush the tank at processing temperature with a small amount of the adhesive to be used, to purge the bulk of the flushing agent. It is also recommended to use a wooden spatula to spread the adhesive in the reservoir and then drain it. The flushing agent is coloured to facilitate the detection of contaminated hot melt adhesive.



3. Hobbock melter

Avoid any contamination during drum changes. The heating plate is to be cleaned and all remnants around the sealing rings are to be removed. Greasing the sealing rings with a suitable water-free and acid-free grease (e.g. rolling bearing grease “Petamo GY 193” supplied by Klueber Lubrication) facilitates easier cleaning and thus considerably reduces the downtime during the change of drum. The drum may not remain open longer than necessary.



4. Chemical cleaning of metal parts

The cleaner Jowat® 930.60 detaches charred and cured adhesive from tools, nozzles, filters, and other small parts made of metal. The disassembled metal parts may be cleaned in a heated bath at approx. 180 °C (e.g. in a commercially available deep fryer). Depending on the degree of soiling, the cleaning procedure may take about 60 to 120 minutes. The temperature of the bath must not exceed 190 °C. Remove parts from the bath, allow for cooling, rinse with water, and dry. Please also observe all recommendations of the equipment manufacturer.



Seals and other plastic parts may be dissolved by the cleaner Jowat® 930.60 and have to be replaced if necessary!

5. Technische Daten

Jowat®		930.74	930.84	930.94	930.60	402.40
Type		flushing agent	flushing agent	flushing agent	cleaner	biological cleaner
Supply form		granulate / blocks	granulate	granulate / blocks	fluid	fluid
Processing temperature T _p	[°C]	120	max. 150	140	180	20
Viscosity at T _p	[mPas]	25,000	< 5,000	50,000	fluid	fluid
Density	[g/cm ³]	0.95	0.93	0.95	1.10	0.85
Softening range	[°C]	80	80	80	---	---
Appearance / Colour		red	red	red	colourless	colourless
Application / Remarks		Flushing agent for medium-viscosity PUR hot melt adhesives . For melters (pre-melter), hoses, and melting tanks (glue pot).	Good dissolving of hot melt remnants in the melting tank (glue pot).	Flushing agent for high-viscosity PUR hot melt adhesives . For melters (pre-melter), hoses, and melting tanks (glue pot).	For cleaning very heavily soiled metal parts (nozzles, filters rollers). Detaches charred and cured adhesive.	Cold cleaner on citric basis for cleaning the application environment.

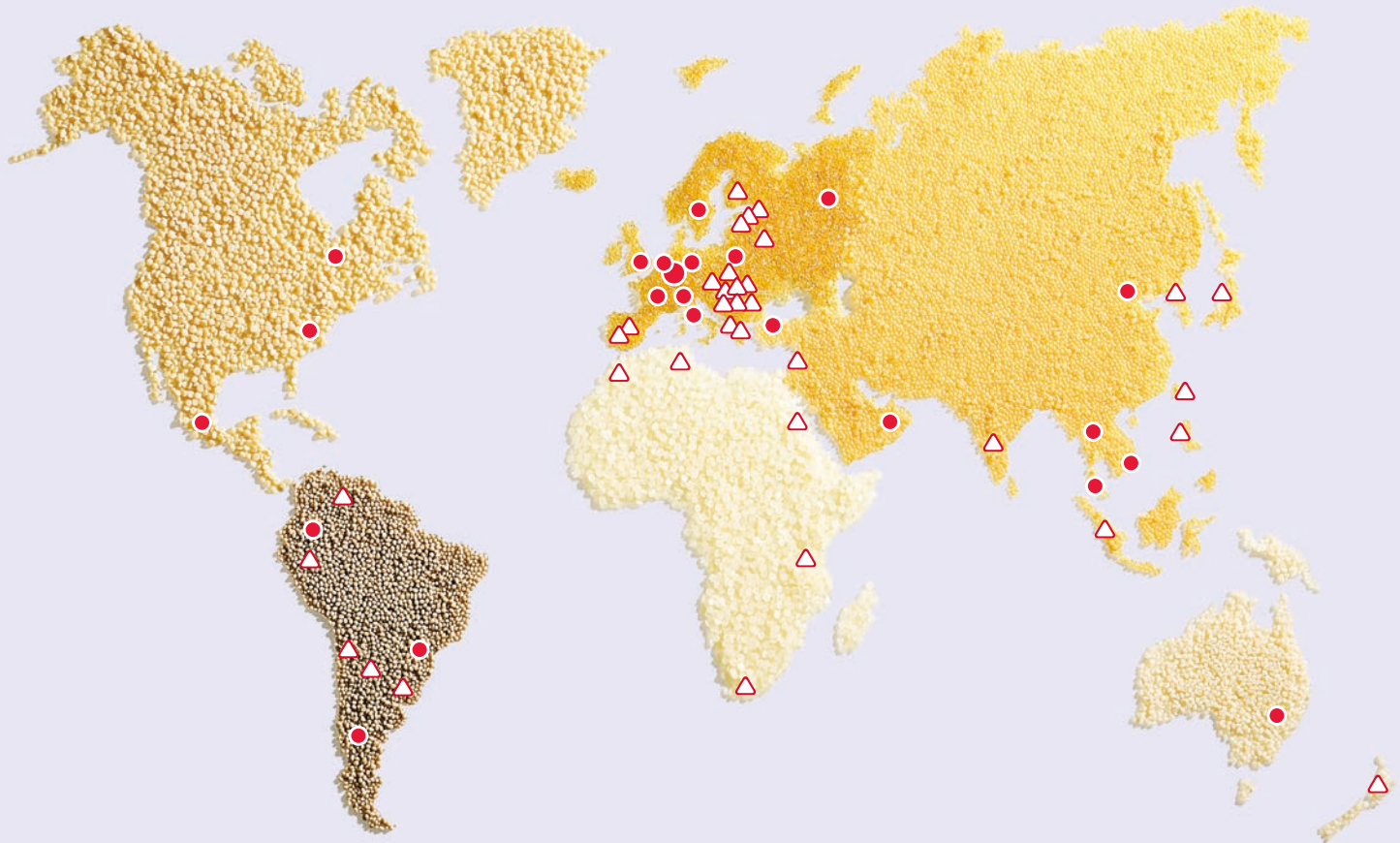
6. Precautions / Remarks

PUR hot melt adhesives contain isocyanate groups as reactive component. Isocyanate vapours may be released at higher temperatures. Vapours which may form have to be extracted via suitable ventilation and extraction systems. For more information concerning safety, handling, transport, and disposal, please refer to the corresponding Safety Data Sheet (available upon request).

Our information in this manual is based in test results from our laboratories as well as on experience gained in the field by our customers. It can, however, not cover all parameters for each specific application and is therefore not binding upon Jowat. The information given in this manual represents neither a legal performance guarantee nor a guarantee of properties. No liability may be derived from these indications nor from the recommendations made by our free technical advisory service.

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