

Henkel

Your Partner Worldwide

About Henkel

The Henkel Group operates in three strategic business areas: Home Care; Personal care; and Adhesives, Sealants and Surface Treatments, which serve the transportation, electronics, aerospace, metal, durable goods, consumer goods, maintenance and repair and packaging industries, and offers a broad range of products for the craftsman and consumer. More than 50,000 employees work for the Henkel Group worldwide. People in 125 countries around the world trust in brands and technologies from Henkel.

Industrial Adhesives & Sealants

The Henkel Group offers the world's most extensive portfolio of adhesives and sealants for industrial applications. Each business unit can draw on all of the adhesives technologies available throughout the Group. All customers, no matter what their sector, therefore benefit from Henkel's comprehensive adhesives expertise and from its vast development potential.



Henkel KGaA
Location Bopfingen
Kirchheimer Strasse 9
73441 Bopfingen
Germany
Phone: +49 7362 81-0
Fax: +49 7362 81-321
dorus.henkel@henkel.com

www.henkel.com

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Henkel 3D Value Package



The Henkel Value Package

4 more good reasons for your success

As the world's largest manufacturer of adhesives, Henkel is known for its extensive range which stretches far beyond the supply of efficient and reliable products.

At the same time, Henkel is one of the leading and most innovative suppliers of tailor-made adhesives and system solutions for the furniture and building components industry worldwide. The focus of our employees is the need of our customers. Open dialogue is our strength. Therefore our experts visit you on site in order to record your needs as well as relevant production conditions. The target of our intensive consultation is not only the choice of the right adhesive, but also the optimisation of the complete bonding process regarding quality and productivity.

Via the **Henkel Value package** we have structured these benefits and further extended them for you.

The target:

To offer you a comprehensive and optimally coordinated system of products and services. We have put together our services under the term "Henkel Value Package".

An integral, value-adding result can be achieved by means of the coordinated interplay of the areas product, process, service, and design: Henkel makes the world go round.

Are you keen enough to safeguard the lasting efficiency of your production processes and further optimise these for the future?

Discover the advantages of the Henkel Value Package. A multitude of opportunities and possibilities are available to you.



Innovative Products ensure Quality and Efficiency Page 4

Henkel offers high quality 3D adhesives

The innovative DORUS® 3D adhesives have an excellent reputation worldwide. Beside their outstanding features, e.g. high heat resistance even at lowest activation temperature, they are available for different press types and a broad range of foils (e.g. high gloss).

- DORUS® one-component 3D adhesives
- DORUS® two-component 3D adhesives (PLUS-System)



Optimising Processes and ensuring Quality Page 6

Special Henkel tools support you

Henkel offers DORUS® 3D process improvements, which are optimally compatible with the DORUS® 3D adhesives. We will provide an insight into the DORUS® 3D Processing Systems.

- DORUS® 3D Profiler
- DORUS® ProControl System
- DORUS® 3D Spray System
- DORUS® 1C CLEAN System
- DORUS® 2C CLEAN Mixing System



Henkel provides a Full Service Package Page 8

Our technicians support you – on site as well

Henkel customers receive a complete and individual service package which supports the adhesive. Our long-term and worldwide experience is your advantage.

On site Services

- Start-up Support
- Trainings
- Quality Control
- Audits and Consulting

Services at the Henkel Technology Center

- Quality Control
- Trainings



A new Design needs competent Partners Page 10

Close and comprehensive team work

Right from the beginning – in close co-operation with our customers we share our experience when you decide to redefine your processes or when new materials and machines are to be introduced.

Design Support

- Focused on Materials
- Focused on Production Lines
- Focused on Safety, Health and Environment

Innovative Products ensure Quality and Efficiency

Henkel offers high quality 3D adhesives

The innovative DORUS® 3D adhesives have an excellent reputation worldwide. Beside their outstanding features, e.g. high heat resistance even at lowest activation temperature, they are available for different press types and a broad range of foils (e.g. high gloss).

DORUS® 1C Adhesives

Henkel offers a broad range of DORUS® one-component (1C) 3D adhesives: From standard products to high performers, with the clear processing advantages of the 1C systems on the one hand and equal quality performance, as offered by 2C systems, on the other hand.

- Wide range of activation temperature available – starting from 55 °C
- Process optimisation by using DORUS® 1C CLEAN System

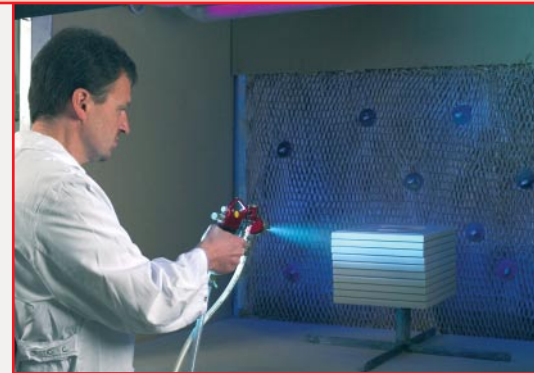


Development of DORUS® 3D adhesives

DORUS® 2C Adhesives

The DORUS® two-component (2C) systems are designed as DORUS® PLUS Systems, that means the cross linker can be added variably – depending on the customer's heat resistance requirements.

- Highest heat resistance, adjustable according to the order
- Cost optimisation via individual adjustment of the cross linker rate to the respective requirement (between 3 – 10 % cross linker)

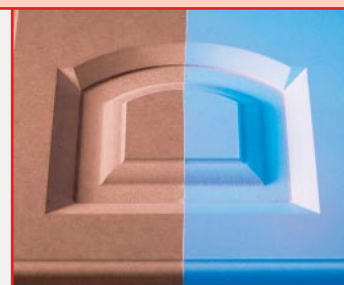


Processing of DORUS® 3D adhesives

DORUS® UV Scanning

The DORUS® 3D adhesives are fitted with a UV tracer for immediate and easy checking of a proper adhesive application.

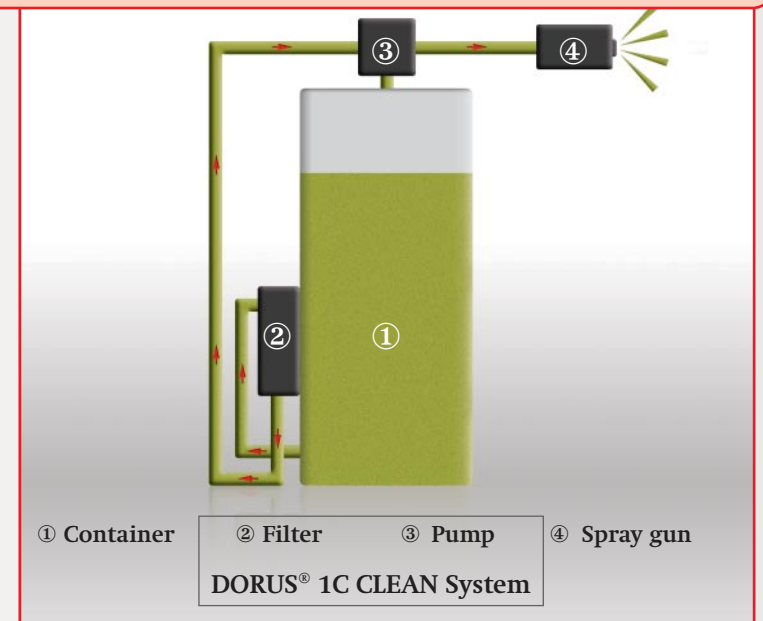
- By using a standard UV lamp, the UV tracer becomes visible and shows the adhesive application clearly on the MDF (blue coloration)



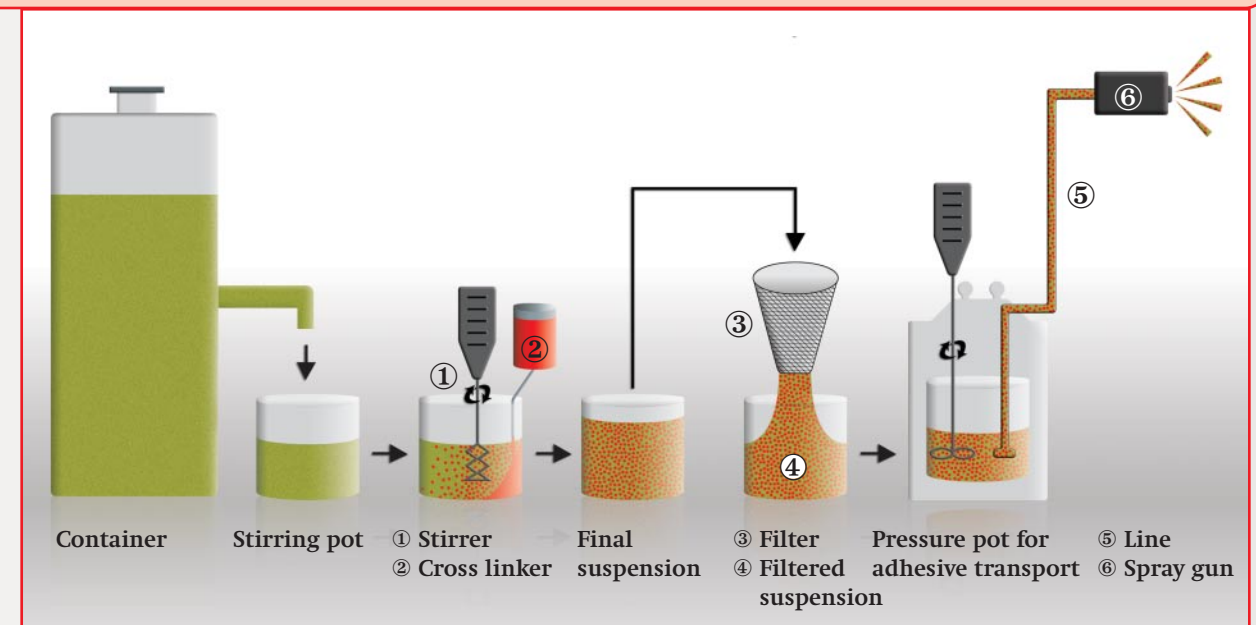
MDF-panel
 • Right half covered with adhesive
 • Left half without adhesive

Process Advantages of DORUS® 1C Adhesives

- Increased productivity (no mixing)
- Cost saving – no waste of mixed material at the end of the shift
- Viscosity stable during the application process
- Durable homogeneous spreading of the cross linker
- Long storage time of pre-coated panels (2 days – 3 weeks)



Preparation of DORUS® 2C Adhesives



Your Benefits

Whether you prefer 1C or 2 C adhesives – we offer the appropriate solution. DORUS® 3D adhesives help you to improve quality and productivity.

Optimising Processes and ensuring Quality

Special Henkel tools support you

Henkel offers DORUS® 3D process improvements, which are optimally compatible with the DORUS® 3D adhesives. We will provide an insight into the DORUS® 3D Processing Systems.

DORUS® 3D Profiler

The DORUS® 3D Profiler is a system for simultaneous, wireless monitoring of different processing parameters such as the temperature at/on edge, surface and foil, as well as the pressure and humidity below the foil. These process parameters are essential for high-end product quality.

Advantages

- Fast and safe adjustment of the press parameters to the different material combinations, e.g. high-gloss foils
- Constant product quality
- Minimisation of rejects
- Reduction of customer complaints



DORUS® ProControl System

The DORUS® ProControl System is a continuous adhesive volume observation system for automatic spray lines. It checks and identifies deviations in the adhesive volumetric flow rate. If the measured quantity exceeds or undercuts the limits, the system transmits an optical and acoustic signal.

Advantages

- Constant and optimised adhesive spraying rate
- Consistent quality of produced parts
- Increase in productivity
- Cost reduction due to less staff for supervision



DORUS® 3D Spray System

The DORUS® 3D Spray System offers the optimised application of DORUS® 3D adhesives.

Advantages

- Optimal distribution of polymers on the surface
- Excellent surface characteristics due to minimal swelling of the substrate
- Less overspray



DORUS® 1C CLEAN System

The DORUS® 1C CLEAN System is a closed application system for DORUS® 1C adhesives. The adhesive is applied directly from the original container to the spraying gun via an integrated membrane pump.

Advantages

- Increase in productivity due to fewer standstills
- Improvement due to cleaner production
- Less cleaning effort
- Minimum adhesive waste



DORUS® 2C CLEAN Mixing System

The DORUS® 2C CLEAN Mixing System is a closed system where the DORUS® 2C adhesives are homogeneously mixed in-line. Especially in high volume production, the process is optimised by adapting the requested ratio of cross linker in-line according to customer heat resistance requirements.

Advantages

- Increase in productivity due to reduced standstills
- Constant high adhesion quality by providing freshly mixed adhesive components
- Manual adding of cross linker unnecessary
- No waste of mixed material at the end of the shift



Your Benefits

The process supporting DORUS® 3D tools contributes essentially to the optimisation of the customer's process by offering benefits, such as constantly high product quality, minimised rejects and increase in productivity.

Henkel provides a Full Service Package

Our technicians support you – on site as well



Henkel customers receive a complete and individual service package which supports the adhesive. Our long-term and worldwide experience is your advantage.

On site Start-up Support

- Technical support during production, start-up process by assistance of experienced Henkel specialists
- A detailed start-up protocol is part of the Henkel service



On site Trainings

- Individual technical training service on customer's own production line by Henkel experts
- Optimisation of process parameters for adhesives applications
- Advice for trouble shooting



On site Quality Control

- Support of Henkel experts on site on optimal processing of DORUS® 3D adhesives
- Process controlling measures
- Quality check of produced parts
- Detailed test report including proposals for establishing customers own quality assurance system



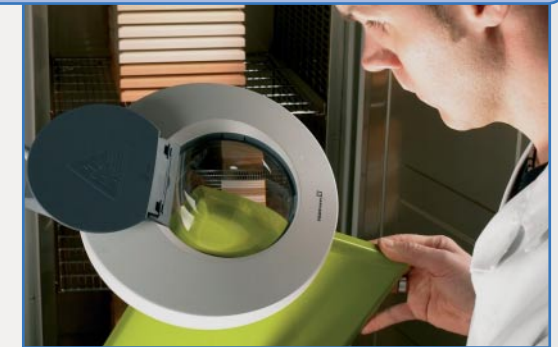
On site Audits and Consulting

- Comprehensive analysis of the current production process with focus on adhesive application
- Development and assessment of possible improvements concerning adhesive application
- Definition of suitable process optimisation and performance measures



Quality Control at the Henkel Technology Center

- Evaluation of 3D furniture parts according to standardised test methods (e.g. AMK, FIRA)
- A detailed report is part of this Henkel service



Trainings at the Henkel Technology Center

- Technical training service on production lines for optimal use of DORUS® 3D adhesives
- Beside the Henkel standard training, individually designed programs are possible as well
- A detailed training manual is part of this Henkel service



Your Benefits

From expert to expert – the Henkel team provides technical support on customer's site as well as at Henkel Technology Center.

A new Design needs competent Partners

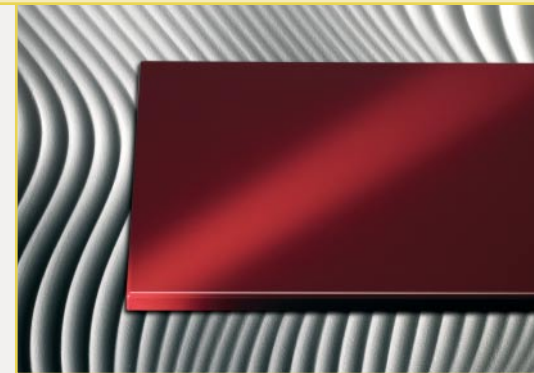
Close and comprehensive team work

Design

Right from the beginning – in close co-operation with our customers we share our experience when processes have to be redefined as well as new materials or machines are to be introduced.

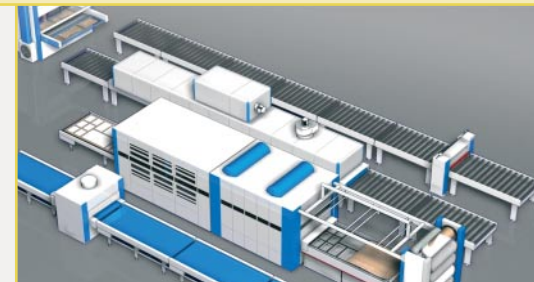
Focused on Materials

- Application and performance tests of new materials at the Henkel Technology Center according to our standards or customers requirements
- Benefit: Saving of expensive machine capacities due to no interruption of production lines
- An expressive report is part of the Henkel support



Focused on Production Lines

- On the background of optimal use of DORUS® 3D adhesives, Henkel experts offer assistance on selecting suitable processing technology
- In dependence on system complexity, support in feasibility studies can be provided
- Benefit: Assistance on adhesive relevant issues and using our long-term contacts to machine suppliers with best reputations



Focused on Safety, Health and Environment

- Information on new regulations and directives in condensed manner
- Benefit: Time intensive study of extended and complicated publications become unnecessary



Your Benefits

For early adaption of trends you need the right partners. We are ready to provide our knowledge in order to jointly develop new ideas to increase product quality and to reduce production costs.

Your individual Henkel 3D Value Package

We have presented our offer in detail.

It will help you to make up your own package with individual products and services – accurately adjusted to your requirements.

Our specialists will be glad to assist you in selecting the ideal combination.

Customer	Date	
<input type="text"/>	<input type="text"/>	<input type="text"/>
Element	Selection	Remarks
Product		
• DORUS® one-component 3D adhesives	<input type="radio"/>	
• DORUS® two-component 3D adhesives (PLUS-System)	<input type="radio"/>	
Process		
• DORUS® 3D Profiler	<input type="radio"/>	
• DORUS® ProControl System	<input type="radio"/>	
• DORUS® 3D Spray System	<input type="radio"/>	
• DORUS® 1C CLEAN System	<input type="radio"/>	
• DORUS® 2C CLEAN Mixing System	<input type="radio"/>	
Service		
On Site Services	<input type="radio"/>	
• Start-up Support	<input type="radio"/>	
• Trainings	<input type="radio"/>	
• Quality Control	<input type="radio"/>	
• Audits and Consulting	<input type="radio"/>	
Services at the Henkel Technology Center	<input type="radio"/>	
• Quality Control	<input type="radio"/>	
• Trainings	<input type="radio"/>	
Design		
Support with	<input type="radio"/>	
• Focus on Materials	<input type="radio"/>	
• Focus on Production Lines	<input type="radio"/>	
• Focus on Safety, Health and Environment	<input type="radio"/>	