

KUKA

KUKA Energy Solutions

KUKA ROBO BOND HOTMELT BONDING APPLICATION

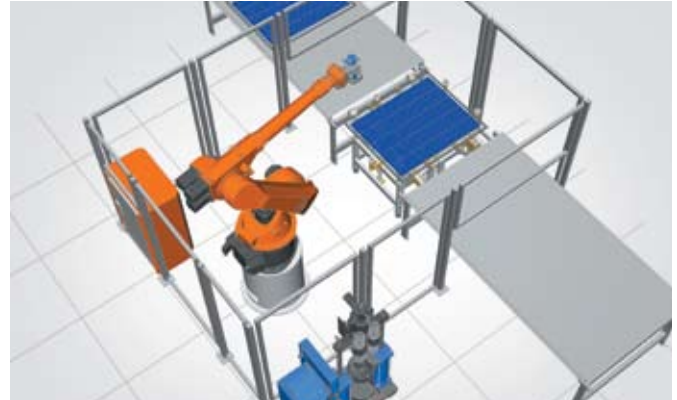


■ **KUKA ROBO BOND**
HOTMELT BONDING APPLICATION

KUKA has developed a fully automatic solution to apply hot-melt bond on any flat surface with high precision.

Next to the special robot designed for applications of this type, the robot software is designed for easy modification of process parameters etc.

The centering fixture for the panel has been developed to correct product position and levelness. The dimensions and positions are measured and transmitted to the robot application to enable a higher process quality. Optional vision system for robot guidance gives additional accuracy to the application.



LAYOUT EXAMPLE

COMPONENTS	BASIC SCOPE	OPTIONS
■ Robot KR 60L16HA	■	
■ GMS Volume doser		
■ VersaDrum™ 200 l single drum pump		
■ Downgrade to 20 l pail system		
■ Upgrade to Auto-changeover (2 drum / pail)		
■ Electrical heated hoses		
■ Belt conveyor w/ centering station	■	
■ Cell control by robot controller KRC	■	
■ Safety fence		■
■ Vision system		■
■ PLC Siemens S7 or others		■
■ Panel measuring system ± 0,25 mm		■
■ Automatic cleaning station		■

TECHNICAL DATA	RANGE
Product sizes	On request
Application speed	Max. 0,2 m / sec or 400 cm ³ / min
Bead types	Round or flat
Bead sizes (± 0,3 mm)	1 mm - 6 mm (round) 3 mm x 0,6 mm to 20 mm x 2 mm (flat)
Accuracy max.	± 0,25 mm
Possible materials	Butyl, Isocoll, Henkel Otto-Chemie, Kömmerling
Dimension approx.	4 m x 6 m
Cycle time	Approx. 60 sec (Depending on bead type)
Price	On request

Specifications regarding the characteristics and usability of the products do not constitute a warranty of properties. They are intended to serve informative purposes only. Some items of equipment depicted in the illustrations are optional, and are not included in the standard scope of supply. Solely the respective contract of sale shall be binding in respect of the extent of our supplies.

For more details contact us at solar@kuka.de
or call + 49 821 797-1076.

KUKA Systems GmbH

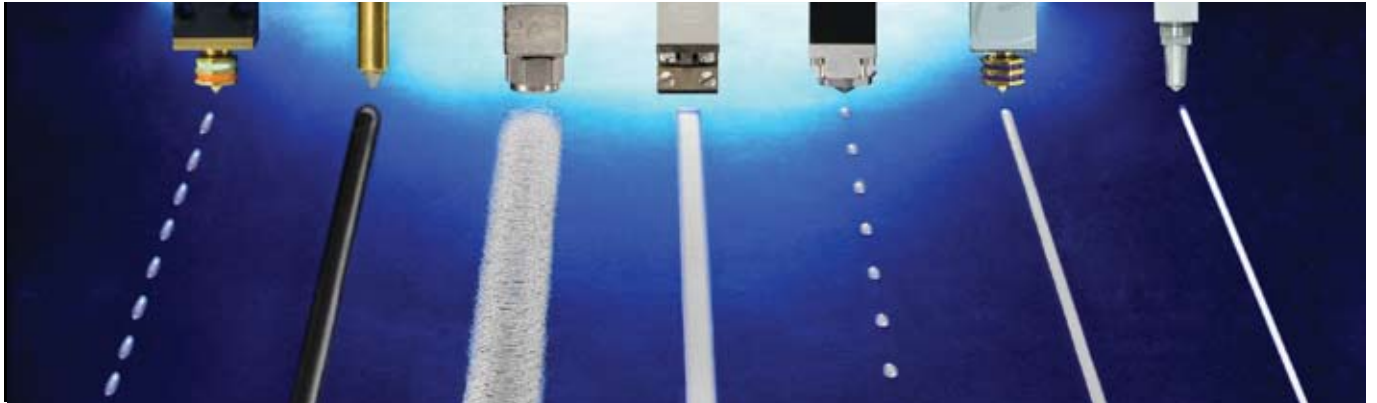
Bluecherstrasse 144 | 86165 Augsburg | Germany
Tel. + 49 821 797-0 | Fax + 49 821 797-1991
info@kuka.de | www.kuka.com

International

Benelux | Brazil | China | France | Germany | India | Mexico
Norway | Russia | Slovakia | South Korea | Sweden | UK | USA

KUKA

NORDSON PV SIDE / EDGE-SEAL SOLUTION



BACKGROUND

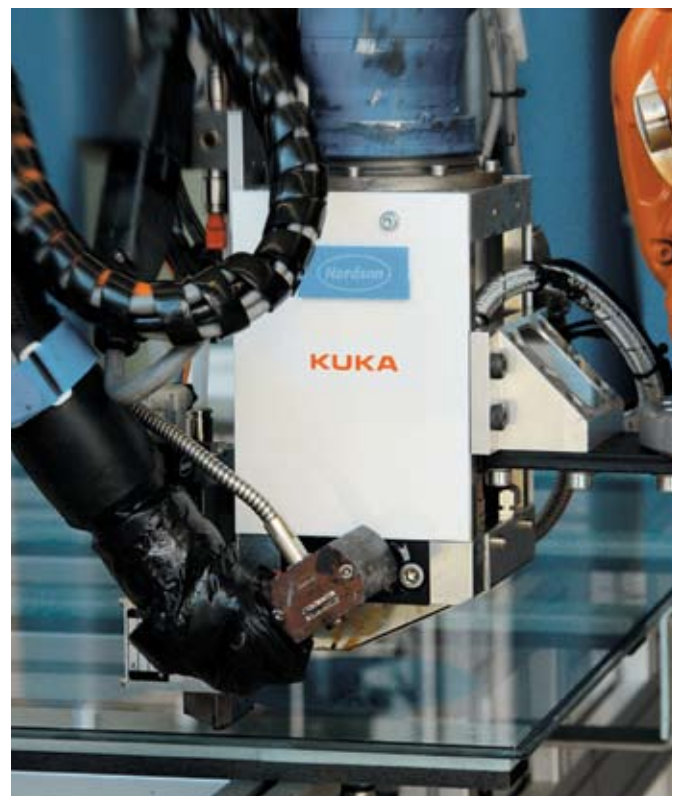
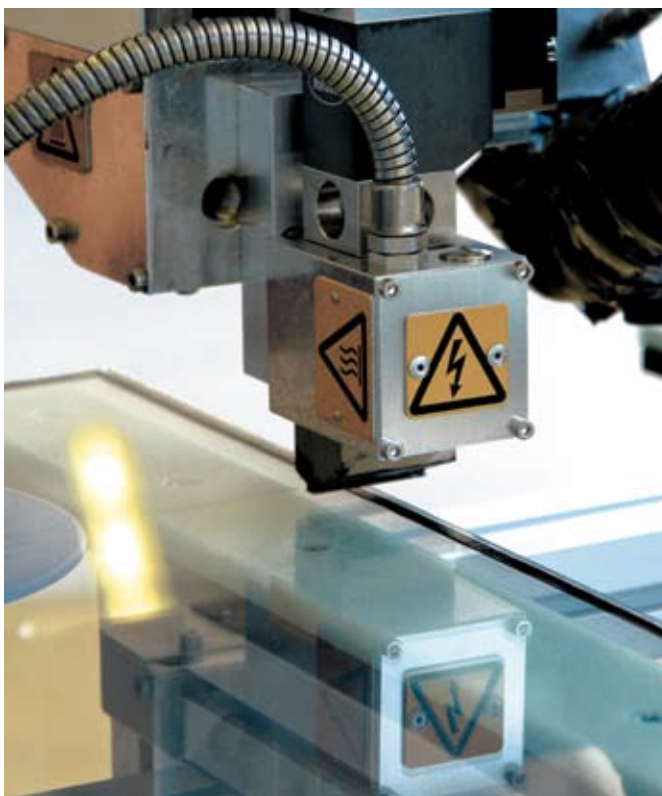
Product durability is a primary goal for any PV manufacturer. Modules must withstand harsh conditions and reach 25+ year life spans. One key factor to achieve this is to keep moisture and corrosion away from the sensitive photovoltaic elements inside the module.

Added moisture barriers made from special tapes in the perimeter area of the modules are one commonly used method.

SOLUTION

As an alternative to tape, Nordson is offering an efficient system to improve the production process and durability of PV module sealing. This system processes materials from drums/ pails or even pellet / pillow forms. It allows for highly accurate and repeatable dispensing of butyl-based, or almost any other kind of, materials in customizable widths, thicknesses and forms.

Depending on the configuration, the system can apply round beads or flat ribbons in customizable widths and thicknesses on the surface, or even a U-shaped, wrap-around sealing around the edge of the glass laminate.



NORDSON PV SIDE / EDGE-SEAL SOLUTION



SYSTEM SETUP

The system setup allows for easy customization and integration into a fully automated production line.

A typical system may consist of two VersaPail/ VersaDrum™ bulk melters, connected with an Auto-changeover feature for uninterrupted production. These feed a gear-metering dispense applicator (GMS), connected to the line-speed signal of the robot, providing a highly accurate, consistent dispense of the sealing as required.

BENEFITS OF AUTOMATED PROCESSING

The fully automated processing of large material bundles as opposed to tapes provides higher application/ system availability, optimized process control, improved product quality and usually less costly material procurement.



NORDSON VERSADRUM™ BULKMELTER AND GEAR METERING SYSTEM (GMS)

For more information, please visit www.nordson.com/solarsolutions
or contact us at solarsolutions@nordson.com

Nordson Deutschland GmbH
Heinrich-Hertz-Strasse 42/44
40699 Erkrath
Tel. + 49 211 92 05 0
Fax + 49 211 25 46 58
www.nordson.de

Nordson Corporation
11475 Lakefield Drive
Duluth, GA 30097 USA
Tel. + 1 770 497 3400
Fax + 1 770 497 3500
www.nordson.com

International

Benelux | Brazil | China | Finland | France | Germany | India | Japan | Mexico
Norway | Russia | Slovakia | South Korea | Spain | Sweden | Taiwan | UK | USA
www.nordson.com/Directory/

© 2009 Nordson Corporation
All rights reserved.
Nordson reserves the right to make
design changes between printings.