

Key features and benefits

- water-based
- economical
- low sealing temperature
- good blocking resistance

Joncryl® 9010

preliminary datasheet

an acrylic co-polymer emulsion for use in water-based heat-seal lacquers for cardboard blisters and flexible packaging

General information

Typical physical characteristics (not to be considered specifications)

appearance	translucent emulsion
non-volatile	45 %
viscosity at 25 °C (77 °F) (Brookfield)	70 mPa.s
pH	7.3
acid value	60 mg/KOH/g
glass transition temperature Tg (DSC)	-10 °C (14 °F)
density	1.03 g/cm ³

Applications

Cardboard blister packs

Joncryl® 9010 is an acrylic co-polymer that offers heat-seal properties at low sealing temperature. The product is very suitable for producing cardboard blister cartons. Due to the low activation temperature, the product will allow shorter dwell times of the sealing equipment. As a result the product output of blister packaging lines is improving by 20-50 %.

Joncryl® 9010 normally will be formulated in order to be applied in-line over wet offset inks through the regular coating stations on a sheet-fed offset presses.

The following formulation was used to perform sealing tests:

77.0 parts	Joncryl® 9010		
20.0 parts	Joncryl® 8085	42.5 % solids solution of solid resin Joncryl® 682	
3.0 parts	Aerosol® ¹ OT 75	wetting agent	
100.0 parts			
	solids	46 %	
	viscosity	850 mPa.s	Brookfield 25 °C (77 °F)
	dilution to 150 mPa.s	11 %	water addition
	gloss	78 %	measured at 60° angle over standard offset ink

This formulation can be considered as a starting point for use as an offset overprint varnish. Addition of commonly used defoamer and wax-additive is recommended to improve press stability and scratch resistance.

Sealing profile of the formulation was tested on standard 275 gsm blister board (Lino freeze, MM Karton).

Varnish applied with a cylinder 140 lines/inch over a wet offset ink and on plain board.

Coating weight 8 grams wet, 3.8 grams dry.

Coated board was sealed against PVC and A-PET blister film.

Dwell time 2", pressure 3 Bar. Only upper sealing jaw was heated ("punch seal")

The following table showing result- OK means complete-fiber tear achieved.

dwell time: 2" pressure: 3 Bar	cartonboard - blister plastic combination			
	Linofreeze - PVC		Linofreeze - PET-A	
temp	on offset ink	unprinted	on offset ink	unprinted
120 °C	OK	moderate	OK	moderate
140 °C	OK	OK	OK	OK
160 °C	OK	OK	OK	OK
180 °C	OK	OK	OK	OK

blister performance

Other heat-seal

Joncryl® 9010 is very suitable as binder or modifier for water-based heat-seal lacquers in a variety of other cardboard and flexible packaging applications. In this function it will replace existing solvent-based heat-seal lacquers or co-extruded sealing films.

Cardboard boxes

Joncryl® 9010 can be used in lacquers on cardboard boxes and trays replacing PE co-extrusion. Due to the low activating temperature the product will provide sealing capability in combination with a level of water and water-vapor resistance that is sufficient for many applications. The product can easily be formulated with wax dispersions to further improve barrier properties.

Pharmaceutical blisters

Joncryl® 9010 will provide bond-strength that meets the requirements for strip-off blister foil. For push through foils the product will serve as a modifier to improve sealing profile of existing water-based heat-seal lacquers.

PET lidding film

Joncryl® 9010 is suitable for heat-seal lacquers on easy peel-off PET lidding films for PET tray material in a variety of packaging applications

Activation temperature

Joncryl® 9010 allows relatively low sealing temperatures making the product suitable for sealing thicker packaging materials during short activating time:

Joncryl® 9010 against PS, APET and PVC : Activation temperature 140 - 160 °C (0.5", 3bar)

Joncryl® 9010 against itself (aluminium) : Activation temperature 80 - 100 °C (0.5", 3bar)

Peelstrength* aluminium against plastics		
	3.5 gsm	7.5 gsm
PS	4	7
APET	5-7	8-10
PVC	7-9	8-11
<i>*peelstrength strips in N/15mm, activating temperature 140-160 °C, dwell time 0.5", 3Bar</i>		

Peelstrength* Joncryl® 9010/ Joncryl® 9010 (aluminium)		
	3.5 gsm	7.5 gsm
80 °C	1.5	3
140 °C	3	6
<i>*peelstrength strips in N/15mm, Joncryl® 9010 against itself, dwell time 0.5", 3Bar</i>		

Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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