

**DYNAPOL® Polyesters
for Flexible Packaging
Applications**

DYNAPOL®



DYNAPOL® POLYESTERS FOR FLEXIBLE PACKAGING APPLICATIONS

DYNAPOL® is the trade name for saturated copolyester resins from Evonik Industries AG.

Especially the high molecular weight DYNAPOL® L grades are suitable for flexible packaging coatings. These resins show excellent adhesion to a variety of different foil substrates made of aluminium, PET, PC, PA and offer outstanding film flexibility.

Properties like molecular weight, softening point, glass transition temperature and balance between flexibility and hardness can be tailored in a wide range to meet special customer requirements.

All DYNAPOL® polyesters are formulated without BPA and PVC. Most of the grades are in compliance with FDA § 175.300, which enables the products to be used in applications with direct food contact.

DYNAPOL® polyesters are used as raw material in many flexible packaging applications, for example:

- foil primer
- pre-print primer
- printing ink
- overprint varnish
- foil coatings
- heat-seal lacquers
- interlayer

Furthermore DYNAPOL® resins are also used as additive in different flexible packaging formulations to improve properties like printability, adhesion (interlayer), flexibility and hardness.

Product Recommendations for Flexible Packaging Applications

DYNAPOL® Grades	Glass transition temperature (°C)	Softening point (°C)	Molecular weight Min (g/mol)	Viscosity number (cm ³ /g)	Structure ¹⁾	OH value (mg KOH/g)	Acid value (mg KOH/g)	Melt flow rate (g/10 min. @ 190°C) ²⁾	Solubility in Methyl-ethyl ketone	Solubility in Ethyl acetate	FDA status
L 206	67	152	20.000	63	L	5	2	17	+	+	+ ^{*)}
L 208	65	146	20.000	70	B	6	6	30	+	+	+ ^{*)}
L 411	47	126	16.000	61	L	5	2	66	+	+	+ ^{*)}
L 490	40	130	15.000	60	B	9	3	88	+	+	+ ^{**)}
L 323	30	130	15.000	65	L	6	2	84	+	+	+ ^{*)}
LS 415	12	110	25.000	80	L	5	3	250	+	+	+ ^{*)}

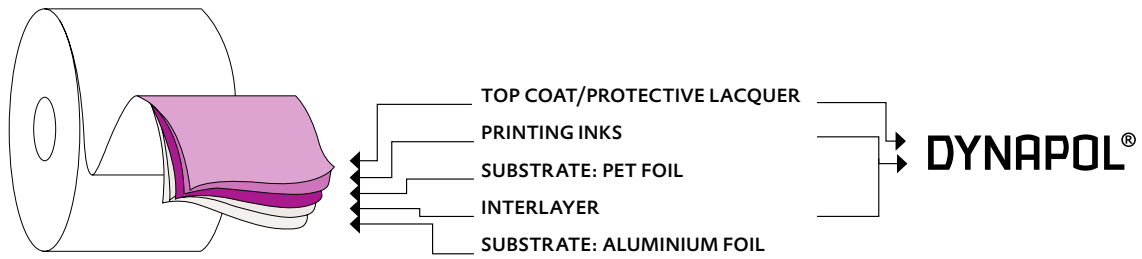
¹⁾ L=linear, B=branched

²⁾ Measured with a force of 21,6 N.

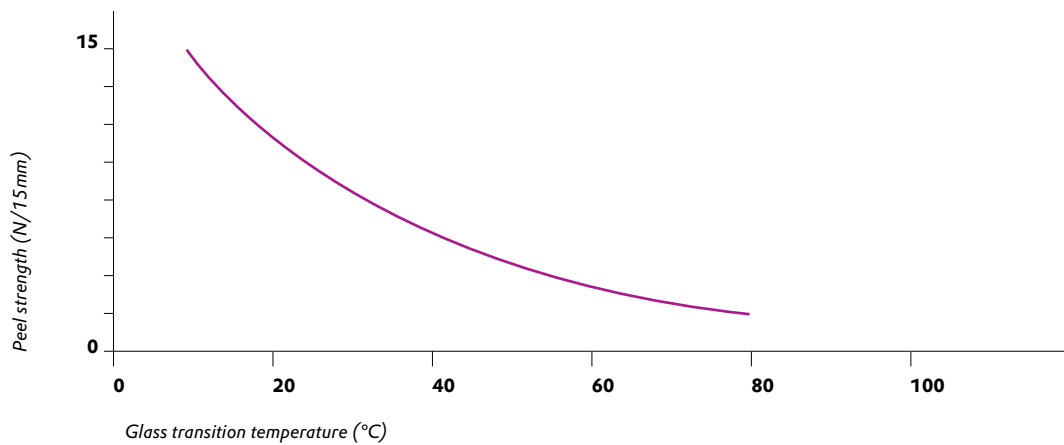
^{*)} in compliance with FDA §175.300 (restriction: only for non alcoholic goods)

^{**)} in full compliance with FDA § 175.300

Target Applications for DYNAPOL® Polyesters



SCHEMATIC ILLUSTRATION OF THE PEEL STRENGTH AS A FUNCTION OF THE GLASS TRANSITION TEMPERATURE OF THE POLYESTER



The peel strength depends on the surface character and the kind of substrate. Usually polyesters with lower glass transition temperature feature a higher peel strength.

ADVANTAGES OF DYNAPOL® POLYESTERS

- excellent flexibility and adhesion
- adjustable properties/tailor made products
- low migration
- BPA-NI
- free of taste and smell
- compliant with FDA § 175.300



EVONIK RESOURCE EFFICIENCY GMBH

Paul-Baumann-Straße 1
45764 Marl
Germany

Phone +49 2365 49-4843
Fax +49 2365 49-5030
dynapol@evonik.com
www.dynapol.com

**EVONIK SPECIALTY CHEMICALS
(SHANGHAI) CO., LTD.**

55 Chundong Road,
Xinzhuang Industry Park,
Shanghai 201108
P.R. China

Phone +86 21 6119-1028
Fax +86 21 6119-1254

EVONIK CORPORATION

Resource Efficiency
299 Jefferson Road
Parsippany, NJ 07054
USA

Phone +1 973 929-8924
Fax +1 973 929-8440

This information and any recommendations, technical or otherwise, are presented in good faith and believed to be correct as of the date prepared. Recipient of this information and recommendations must make their own determination as to its suitability for their purposes. In no event shall Evonik assume liability for damages or losses of any kind or nature that result from the use of or reliance upon this information and recommendations. EVONIK EXPRESSLY DISCLAIMS ANY REPRESENTATIONS AND WARRANTIES OF ANY KIND, WHETHER EXPRESS OR IMPLIED, AS TO THE ACCURACY, COMPLETENESS, NON-INFRINGEMENT, MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE (EVEN IF EVONIK IS AWARE OF SUCH PURPOSE) WITH RESPECT TO ANY INFORMATION AND RECOMMENDATIONS PROVIDED. Reference to any trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used. Evonik reserves the right to make any changes to the information and/or recommendations at any time, without prior or subsequent notice.

CONTACT US

