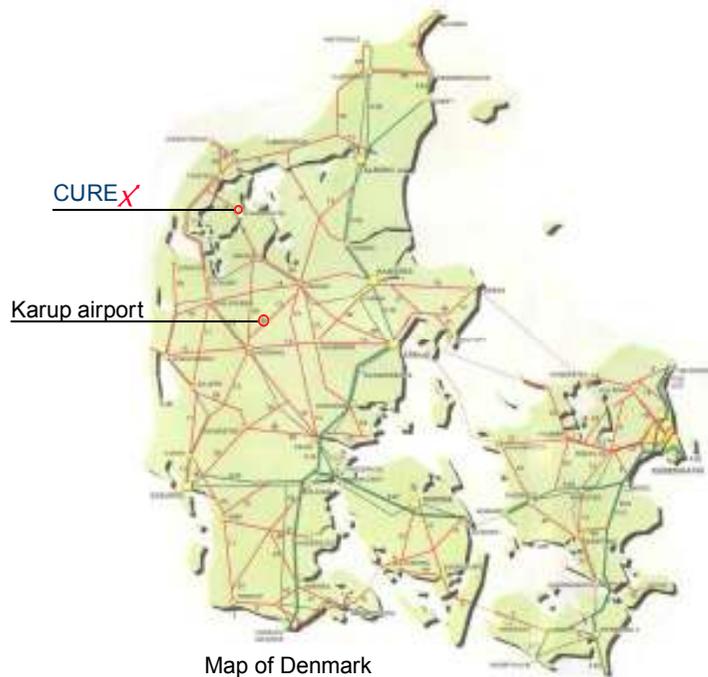




Curex ApS is a joint venture between the inventor of Curex and Kunststof-Kemi Skandinavia A/S.

Max O. Rasmussen, the inventor of Curex, has 25 years of lamination technology experience. Kunststof-Kemi Skandinavia, the producer of Curex, is a leading European masterbatch producer and has 40 years of experience of colour and additive masterbatch making.

With this concentration of experience, Curex is confident to have created a basis that will make it possible for the Curex technology to progress in its own right, even if the future aim is also to establish a synergy with colours and additives.



Map of Denmark



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New technology in lamination and converting



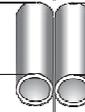
Shorter delivery times



Less storage space needed



General upgrading of your lamination quality



Less complaints



Reduction of your overall lamination costs



Getting your money back earlier



Reducing migration from uncured adhesives

Is this what you are looking for?

This is actually possible with **CUREX** lamination aid

- read more on the next pages!

NEW TECHNOLOGY IN LAMINATING OFFERING FASTER CURE VIA CUREX MASTERBATCHES

WHAT IS CUREX ?

Curex is cure and adhesion accelerating plastic masterbatches which are added to lamination films during the manufacture of the films to achieve rapid cure of laminating adhesives.
Curex will cure polyurethane adhesives much faster and/or more complete, with various advantages to the converter and the end-user.
Only 1-2% Curex masterbatch is required to obtain the benefits described.
There are special Curex masterbatches for polyethylene, polypropylene and polyamide films.
They are delivered in the form of ordinary polyethylene, polypropylene or polyamide plastic resin granulates and are added to the film during the film manufacture by the usual automatic blenders.

WHY USE CUREX ?

It is well known from technical datasheets that most polyurethane adhesives need 8-10 days for full chemical cure, during which time the adhesive is under the influence of moisture, temperature, printing inks, slip additives and other film additives.
Curex masterbatches offer rapid cure, which helps to reduce these problems and thus offers a number of advantages in lamination and converting, depending on the type of adhesive used. Curex masterbatches will have an effect with all NCO terminated polyurethane adhesives, both solvent free and solvent based. They are less effective with OH-terminated polyurethane adhesives.

ADVANTAGES & SAVINGS

Less telescoping.
Less piping (tunneling) in connection with bad rolls or several ink layers.
Allows higher line speeds due to broader choice of adhesives.
Allows adhesives with longer pan life whilst maintaining fast cure.
Offers operator quality control of laminates.
Saves storage space for semi-finished goods, and saves handling and transport costs between production stages. Less rejected orders due to better curing of adhesives. Less capital needed due to shorter production time.
** Depending on the combination of CUREX grade and adhesive.*

CUREX OFFERS

Very fast curing of laminates, permitting slitting in 3-4 hours. *
Delivery in 24-48 hours after lamination. *
Faster aromatic amine decay.
Easier compliance with US and EU migration limits. Protection against anti-seal effect.
Less sensitivity to loss of slip.
Faster quality control of bonds and heat seals. Much faster lead time for solvent free laminates.
Less sensitivity to retained alcohols from difficult printing jobs.
General upgrading of lamination quality for most PUR adhesives.
General cost reduction when fully exploited.
Enables anti-fog and anti-static properties in laminates.

THERE IS A TREND IN MODERN LAMINATION AND CONVERTING TO FOCUS ON:

- HIGHER LINE SPEED =>
- FAST CURING, SLITTING AND CONVERTING =>
- FAST QUALITY CONTROL/FAST AMINE DECAY =>
- FAST SHIPPING WITH LESS CAPITAL INVESTED

These properties do not exist in one single adhesive today, but can be achieved by using:



CUREX WILL REDUCE CONVERTING COSTS

By a general upgrading of your lamination quality, significant cost savings can be achieved. By improving the bond strength level, many lamination jobs may move from critical levels into safer bond strength levels. The cost of Curex is approximately 1% of the cost of a snack food laminate. By introducing Curex into the plant, your average saving is 3%. However, fully exploited, the potential saving is 5-8% of your production costs by making full use of the various advantages of Curex.

CUREX WILL REDUCE MIGRATION FROM UNCURED ADHESIVES

Curex masterbatches will offer better and faster cure of polyurethane adhesives, thus reducing the risk of monomers from uncured adhesives migrating into the packed foods.
The valid national regulations for migration limits for cured adhesives are: Germany: Aromatic amines: 0,2mg/100 ml test liquid.
EU Directive 90/128 EEC: Expressed as one milligram NCO/1 kg laminate (QM (T)) = 1mg/kg. USA: Ramsey Proposal of max. 50 ppb detectable migration (including free NCO in a laminate).

CUREX IS FULLY FOOD APPROVED

In the recommended amounts Curex masterbatches conform to EU Directive 90/128 EEC, FDA regulations, Health Canada as well as German BgVV regulations for Food Contact Materials.
For specific Food Contact Regulations see individual product information as well as MSDS.
Food Contact documentation from Keller & Heckmann, Washington, USA, is available upon request.

INFLUENCE OF CUREX ON SLIP

There has been no negative influence on slip properties by adding 2-4% CUREX to lamination films and in fact, CUREX may reduce the risk of slip loss caused by some high monomer laminating adhesives.

INFLUENCE ON TASTE AND ODOUR

The effect of 2-4% CUREX added to food contact films has been tested at recognized laboratories in Europe for taste and odour; both as part of a laminate and as single un laminated films. In all tests the effect of CUREX was statistically insignificant and had no negative influence on the final laminate or packed products.

CUREX IS FULLY TESTED

Curex masterbatches have been involved in more than 100 different lamination tests and trials. A vast documentation record for bond strength, heat seals, slip effect, anti-seal effect, product resistance as well as other tests is available. More tests at recognized adhesive manufacturers are ongoing and are planned to continue. Curex has been in use under production conditions during the last 36 months.

PRODUCT PROGRAM:

- CUREX PE 25** - Cure accelerator for polyethylene films
- CUREX PE 50** - Cure and adhesion accelerator for polyethylene films
- CUREX PP 50** - Cure accelerator for polypropylene films

For individual properties please see product information as well as MSDS or seek technical assistance.

For more technical information please visit our website at www.curex.com

PROCESSING TIME WITH AND WITHOUT 2% CUREX PE 50								
Adhesive type:	1 Component Solvent free		2 Component Solvent free		2 Component Solvent free		2 Component Solvent free	
Temperature:	Hot Appl.:70-80°C		Cold Appl.: 35-40°C		Hot Appl.: 55-65°C		Hot Appl.:40-45°C	
Chemical type:	Aromatic		Aromatic		Aromatic		Aliphatic	
Process:	Standard	2% Curex *						
Slitting	72 hours	3-4 hours	24-72 hours	2-3 hours	48-72 hours	3 hours	4-5 days	2 days
QC check	72 hours	3-4 hours	12 hours	1-2 hours	24-48 hours	2 hours	4 days	1-2 days
Correct heat seal	96 hours	24 hours	24-48 hours	18-24 hours	6-10 days	24-48 hours	7-14 days	2 days
Dispatch	6-10 days	1-2 days	72-96 hours	18-36 hours	7-10 days	48 hours	10-14 days	2-3 days
Passing of aromatic amines test ***	4 -21 days	2-3 days **	14-21 days	4 days **	7-9 days	48 hours **	aliphatic amines	aliphatic amines
Machining	7-10 days	2-3 days	5-7 days	1-2 days	9-10 days	2-3 days	12-14 days	2-4 days

* Depending on choice of Curex grade

** Based on combination of Curex and specific adhesive. Adhesive supplier can be referred to

*** New BgVV test: 0.2 µg/100 ml

CUREX
lamination aid

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