

E.T.D. Newsletter

European Thermoforming Division of SPE



January 2007

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Welcome to the Second Edition of the E.T.D Newsletter



Kitty Beijer
Senoplast Klepsch & Co.

During the last few months some remarks were made that worried me somewhat and I would like to correct them immediately. The European Thermoforming Division of the SPE does NOT JUST exist to organise a conference every 2 years.

The ETD is a non-profit organisation, organised for all members by volunteers from our industry.

The ETD has the goal to promote the scientific and engineering knowledge relating to the thermoforming industry and the materials and equipment used within that industry.

We are continuing to achieve that goal by organising technical meetings at which formal and informal seminars take place during which the problems and solutions within the industry are discussed. Furthermore we give our members access to papers on plastics and plastics-processing issues through internet facilities and inform them on recent developments with our **ETD Newsletter** as well as the **Plastics Engineering magazine** that each SPE member will receive every month from January 2007. Also if you have, as your secondary affiliation **Thermoforming Division USA**, you will receive their quarterly magazine. This information is provided to you as a member of the **European Thermoforming Division of the SPE**.

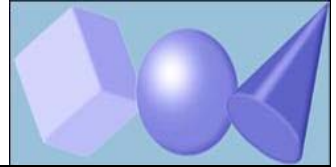
One more development is that from early 2007 you will be able make comments on current matters, as well as ask questions on our own web site www.e-t-d.org. This will be an interactive area for members to give opinions on various issues and ask advise. The website will be monitored and responses will be made as quickly as possible.

www.e-t-d.org

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Welcome to the Second Edition of the E.T.D Newsletter



The ETD encourages engineers and scientists to exchange technical information about plastics and we support scientific projects that relate to thermoforming industry, like T-Form project that we helped to get started and still follow its progress.

We co-operate with and encourage educational institutions to proceed in finding new areas in which thermoforming could be expanded like e.g. "micro-thermoforming".

We are hoping to found a new sub-division for the micro-thermoforming project. More information on this possible sub division will be issued in the spring of 2007.

This brings me to the next ETD conference. Please mark these dates in your calendars, because I would be very happy to welcome you all to **BERLIN on the 4th and 5th of April 2008.**

The conference will take place in the **Hotel Maritim** and we are trying our utmost to satisfy the high expectations that came out of the Salzburg conference.

Berlin has been chosen due the good accessibility with cheap airlines and the vicinity to the rapidly developing eastern European countries.

The theme of the conference is

CROSSING FRONTIERS. ***KNOWLEDGE, THE KEY TO SUCCESS***

A full program is being compiled by Ken Darby and the program committee and we will give you information about the speakers and subjects over the coming months. Any input from members is always welcome,

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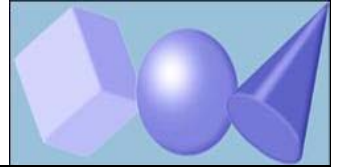
please use our new web interactive page.

Last, but not least, the board wants to address another important issue. When listening to "end-users" or the "buyers of thermoformed products", we were amazed by the absolutely **wrong perceptions** of the qualities and benefits that can come from thermoforming. We believe we all need to address this issue and if you read the article in this newsletter you will see why we as a group must educate our customers. We are therefore opening this debate on our website and want everyone to participate.

As this is still the first month of the New Year I would like to wish you all a healthy and successful 2007 and thank you for your support



PERCEPTIONS



One of the main aims of the ETD is to promote Thermoforming and encourage informed dialogue between members.

We all have differing views on how Thermoforming is seen in the wider market-place. Not surprisingly many of the advantages of the process we assume to be well known: such as lower mould tooling cost, shorter lead times, large parts with consistency of surface finish without preparation or painting. All in all allowing low volume production with an increasing number of newer composite materials.



However, views from the wider market place include a number of perceived negative aspects such as: high material wastage, limitations on moulding detail and design, poor edge finishing,

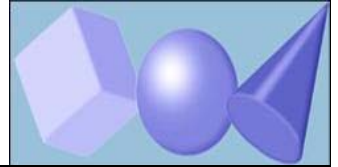


variable dimensional stability, comparative high unit cost and restricted material choice.

Whilst such preconceptions exist, regardless of the vast improvement made in all of the above areas, designers and technicians will invariably look to alternative processes. We need to get the message across and, at the same time, take a realistic view of the negatives.

In the wider context few designers without a broader experience would consider sharp detailed components or hollow moulding as potential thermoformed products, in spite of excellent results from pressure mouldings and twin sheet products.

PERCEPTIONS



Discussions with a cross section of potential customers outside the accepted marketplace has highlighted a limited knowledge of the thermoforming process and virtually no knowledge of new generation high spec materials.



In addition to this, the step change in quality brought about by machined tooling and CNC finishing has vastly increased the potential to challenge conventional materials and processes.

Recycling issues apart, many users of polyester resin based products do not consider thermoformed parts as realistic competition.

An examination of the entries for the E.T.D parts competition at the last Salzburg conference would dispel any doubts about the advances in products, process and technical achievement but this positive message needs to be broadcast further.

However, within the Thermoforming Industry, we should not be complacent about what competition we face, through advances made in other areas. To quote an example, roto-moulding products have had a significant growth in recent times in spite of on the face of it having even greater limitations in process and materials.

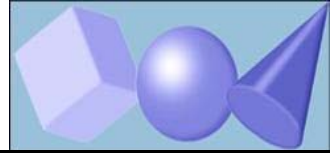
An ongoing appraisal of increasing competitive threats from other processes will be part of the E.T.D commitment to members.

We would invite your views on this and any other related subject to be published on the **E.T.D Website**. We can all learn from a continuing dialogue.

www.e-t-d.org



IML in Thermoforming



In Mould Labelling Is it Finally Alive?

This subject is discussed frequently in the Thermoforming world. On the recent shows the main suppliers did say and/or show that the technology for T-IML (as its named) is available. The only thing missing seemed to be customers ready to invest. Two major projects were kicked off last year but only one system made it into production in Germany. This year two key players in that market; Illig and Hekuma, sold their first systems and they are will "go live" early 2007.

The systems promoted by Illig, Gabler and Kiefel are all based on a tilting-machine concept which is combined with an automation. Since the mid 90's there is an OMV-System on the market which is used to make Eurotub containers.

T-IML has been promoted many times – and called dead at least as many. What are the reasons for that and how to overcome them is an often asked question.

T-IML gives you great graphics and decoration possibilities

The driving force behind IML and T-IML is the marketing department with their desire for great and detailed artwork on every part. It seems that the demand for that is driven by competition. While in Europe the shelves look

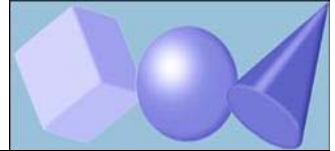
colourful and many parts are made in IML (injection), sleeved or labelled afterwards, the supermarkets in the US can and do still get along well with simple printed (if at all) containers for many products.

T-IML gives you a wide range of technological possibilities

While in the early 90's it was where only the quality of the print itself, today the labels can integrate much more benefits which otherwise can not be printed directly on the cup. Smart labels can integrate RFID, colours & colour-tricks which support gimmicks for marketing campaigns as well technology to support the insulation, give the part a certain texture and support the barrier-effects for extended shelf life.



IML in Thermoforming



T-IML gives you a bad cycle rate

This statement is still true. Up to today all systems on the market which have an IML-System do run slower. But the time lost is much less than 10 years ago. Thanks to fast driving servos and –even faster- well designed mechanical motions, the loss in CPM's is depending on the part only 5-15%.



T-IML Labels will not work well and/or are expensive

Since the request for such labels is still very low labels especially made for T-IML do still have a premium price. P`Auer from Switzerland for that reason developed a technology to transform a standard label to a T-IML-Label. Also Treofan and Auto-bar have labels on the market which bring good results.

But even if the labels have (for now) a higher price compared to the label used in injection moulding, up from a certain part size the benefits in part weight compen-

sate or overcompensate that effect.

T-IML Labels will limit your cavitations

It is certainly true, that the first T-IML-Systems have a rather low cavitations-number compared to large Thermoformsystems especially used in the US. But compared to the injection mould systems a 12up T-IML-System is a pretty good number for a large 1000 ml container.

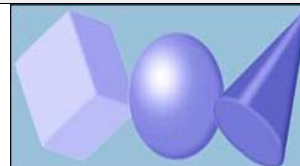


Outlook:

With the above facts in mind it seems very likely that T-IML will become a standard application for medium to large sized thermoformed parts and as well as parts which demand a first class decoration AND multi-layer sheet which can only be extruded.

The past did teach us that such things do not happen over night; but never the less, T-IML can be expected to stay in the focus, especially with the K-show taking place in Oct. 2007.

SPE Update



SPE Europe is now a legal entity and European Thermoforming Division is one of the board members of this organisation ensuring it helps and promotes SPE across Europe

Yetty Pauwels is the Manager of SPE Europe and her contact details are listed below.

SPE are holding their January 2007 meeting in Charleston USA and at this meeting various officers of the Council are elected, such as the next President, The next Senior Vice President and also at this meeting decisions on the future path of the SPE are discussed and voted. It is therefore very important that all European Divisions and Sections either attend the meeting or specify a proxy to vote on their behalf. All proxies can be organised by Yetty Pauwels.

The 5th European Additives and Colour Conference put on by The SPE Additives and Colour Europe Division will be held in Mondorf Les Bains Luxembourg between the 14 -15th March 2007.

SPE Medical and Polymers Division Europe is in its formative stage and is planning to hold its first conference during 2007. Any interested people who would like to be involved in its first conference, which will be held in Ireland should contact Yetty Pauwels.

SPE Europe are helping the formation of a European Composites Division and there is to be a meeting at the JEC in Paris which is held between 3rd and 5th April 2007. SPE Europe will have a stand and we would like all interested people to advise us so we can let you know when and where the composites meeting will take place.

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