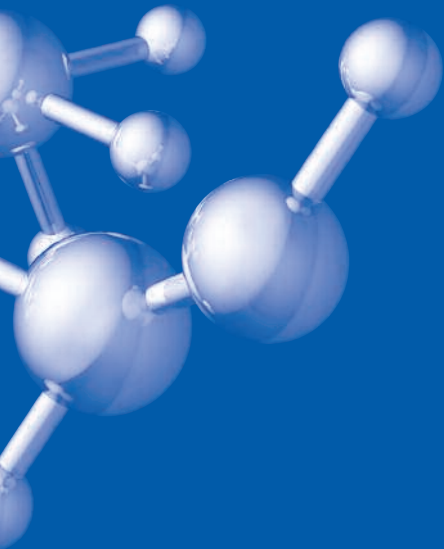


Lurgi



Zimmer® Polymer Technology

DTP – Direct To Preform





Introduction

Without detour, from the polycondensation directly to the PET bottle preform – this is the answer to the continually rising cost pressure on the preform market.

The integrated Zimmer® process DTP – “Direct To Preform” – lowers your production costs and raises your added value. The optimized supply chain in turn benefits your customers – thereby strengthening customer retention.



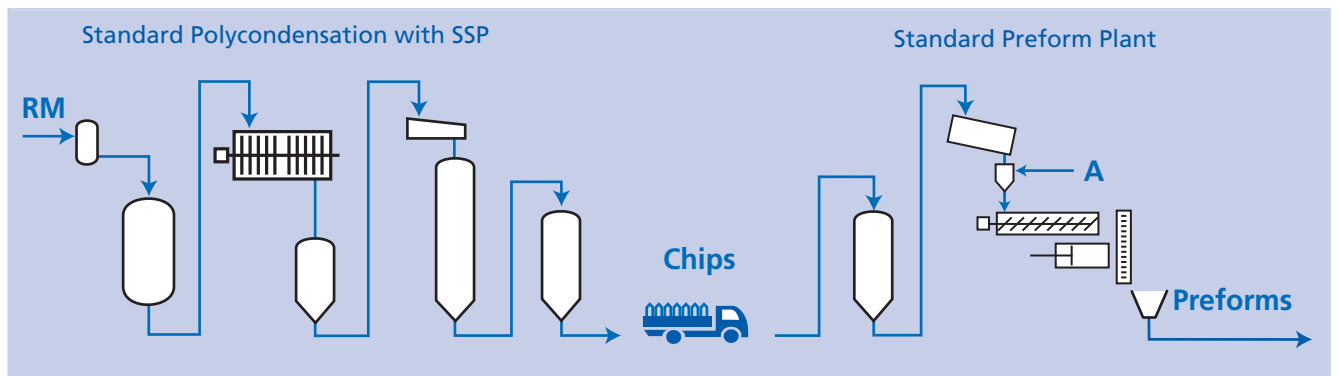
Preform machine in pilot plant



Directly to lower costs

In the DTP process, important production steps of the conventional, multi-stage production process for preforms can be omitted. In particular, the investment for the solid state polycondensation (SSP) step and the corresponding conversion costs can be saved, but also the associated warehousing and transport costs are no longer an issue. The production costs will drop by about 100 Euro per ton of preforms.

	Standard	Saving	DTP
Raw materials Utilities Additives (Surcharge + freight)	95 %	-10 %	85,5 %
Depreciation Personal Maintenance	5 %	-10 %	4,5 %
Total	100%		90 %

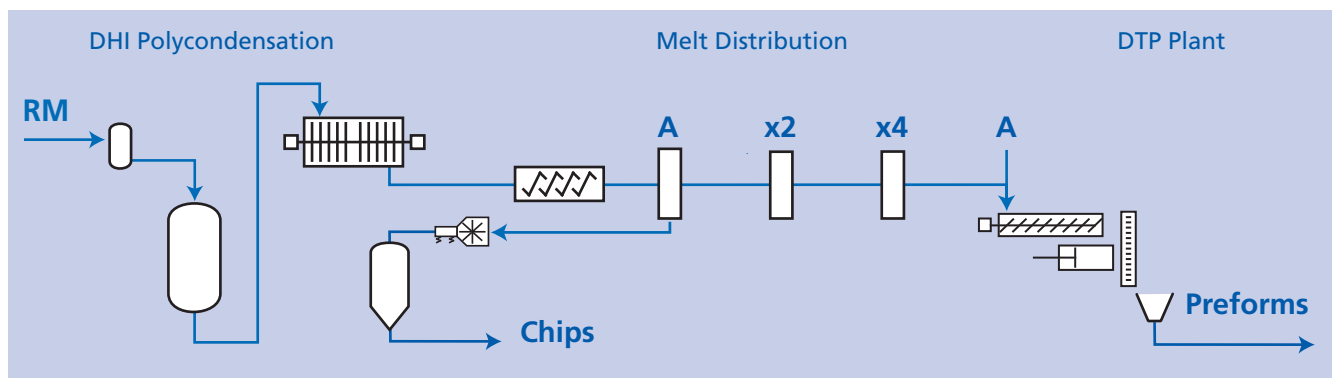


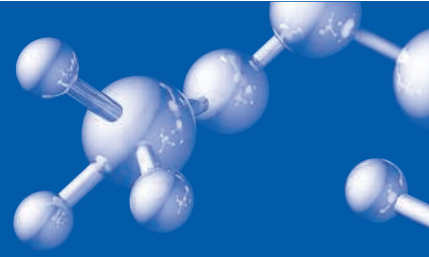


At the heart of the process: the DHI polycondensation

At the heart of the DTP technology is the DHI polycondensation unit. The highly viscous melt required for the preforms is produced in the final reactor of this production step. There is also the flexibility to inject additives using

special dosing points in the melt distribution system in order to achieve specific product characteristics. Downstream, the extrusion section of the preform machine was developed jointly by Zimmer and Husky for the special purpose of processing PET polymer.





Innovative technology that is capable of more

The new technology relies on tried and tested Zimmer® quality with established and economical plant concepts. The system is highly flexible: when combined with the integrated DTP concept, the DHI step supplies highly viscous polymer of up to 0.86 dl/g for a broad range of preform types, in size, shape, number, AA content and speciality additives e.g. UV, barrier. At the same time, highly viscous, crystallized chips for future conversion to preforms production can be produced. Alternatively, DHI can also be implemented as a stand-alone solution.

With the production alternative “preform and/or granulate” all market demands in terms of product quality and production flexibility are satisfied. DHI and DTP thus represent an attractive investment alternative.

Lurgi is a leading technology company operating worldwide in the fields of process engineering and plant contracting. The strength of Lurgi lies in innovative technologies of the future focusing on customized solutions for growth markets. The technological leadership is based on proprietary technologies and exclusively licenced technologies in the areas gas-to-petrochemical products via synthesis gas or methanol and synthetic fuels, petrochemical, refinery technology and polymer industry as well as renewable resources/food.

Lurgi is a member of the Air Liquide Group



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