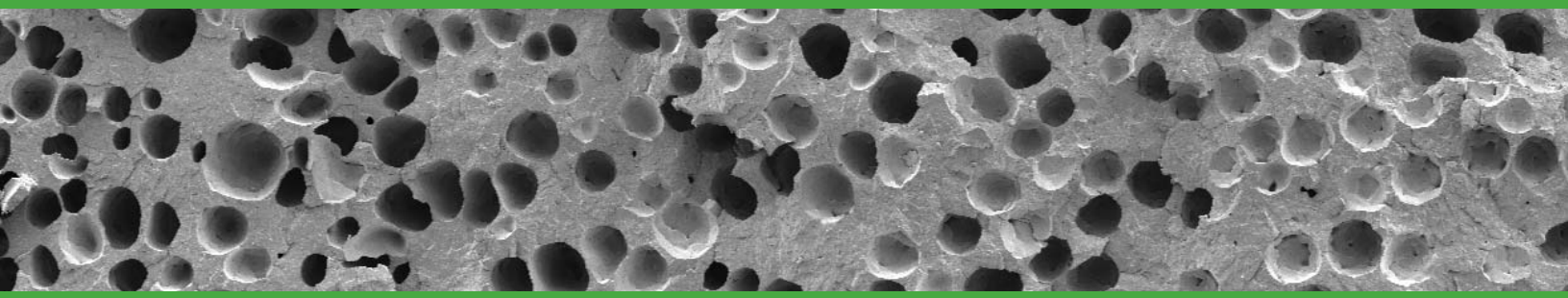
TecoCell®

H1 Blow Molding Guide

Trexel Chemical Foaming Agent



TecoCell H1 is a chemical foaming system targeted for use with polyolefin materials to provide assistance to the blow molding process with density reductions exceeding 25%.

Equipment: Use of 1 stage screw is recommended.

Processing Parameters:
TecoCell H1 has a single activation temperature of 393˚F (200˚C). The activation process must take place in the higher compression area or metering section of the screw. This will prevent the CO_2 gas from escaping through the material feed throat.

Preferred Melt Temperature: 440˚F-490˚F

Typical Barrel Profile:
Temperatures are given as a minimum to insure reaction of foaming agent, higher temperatures might be needed if the part or material requirements dictate.

Section	Temperature ˚F	Temperature ˚C
Zone 1	385	195
Zone 2	420	215
Zone 3	445	230
Die	445	230

Blow Pressure should be between 25-30 PSI, as it is more effective for weight reduction and to cell formation if the blowing pressure is low. A high blow pressure will collapse the cell structure.

Screw Speed should be set above 25 RPM to insure higher shear and proper mixing of the concentrate reactant.

Blending in concentrate is one of the most important and sometimes over looked steps. Proper mixing should be done with a volumetric or gravimetric color concentrate feeder and should be used at 1-4%. Because of the small cell size, higher levels of TecoCell can be added for weight reduction than typical endothermic blowing agents, as it is less likely to be affected by blow through of the parison.

General Discussion:
Extruders used for foaming are generally in the range of 24:1 L/D or longer. This gives ample time for proper mixing and complete reaction.

Using screen packs is acceptable with TecoCell.

Head designs should be streamlined and without pressure drops. Pressure drops in the head design can cause pre-mature foaming.

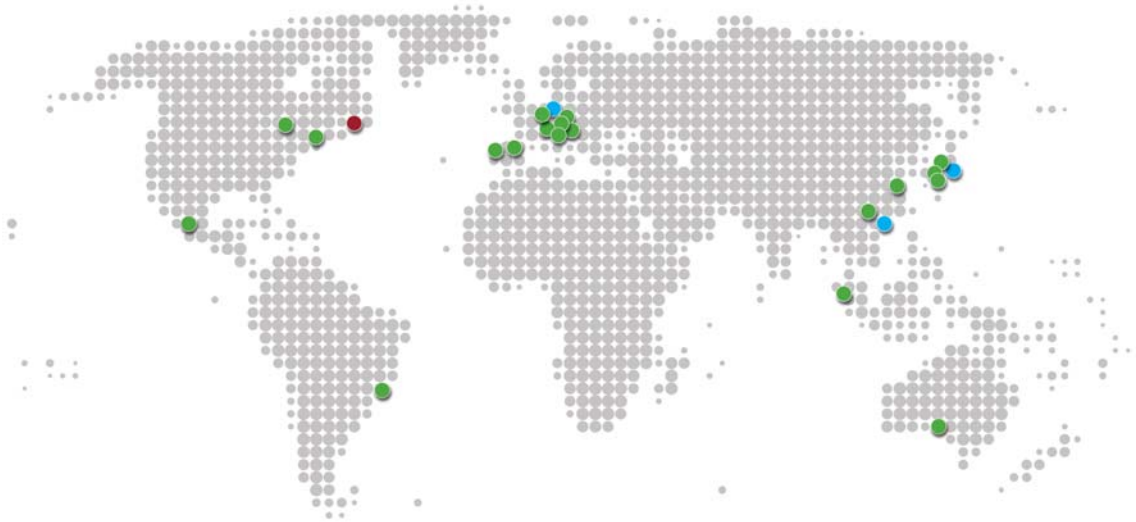
MuCell Processes
TREXEL INC.

About Trexel

Trexel, Inc., headquartered in Wilmington, MA, has led the development of the MuCell® microcellular foaming injection molding technology and has pioneered many plastic processing solutions. The MuCell® technology provides unique design flexibility and cost savings opportunities by allowing plastic part design with material wall thickness optimized for functionality and not for the injection molding process. The combination of density reduction and design for functionality often results in material and weight savings of more than 20%. The numerous cost and processing advantages have led to rapid global deployment of the MuCell® process in automotive, consumer electronics, medical, packaging and consumer goods applications. Process deployment as well as equipment is supported by teams of highly qualified engineers through Trexel subsidiaries in North America, Europe, and Asia.

Trexel recently extended its product offering with the TecoCell® system. TecoCell is a unique chemical foaming technology that provides uniform microcellular structure to injection-molded parts.

For more information, please visit www.trexel.com.



● HEADQUARTERS
● SUBSIDIARIES
● TECHNICAL CENTERS

MuCell Processes
TREXEL INC.

Trexel, Inc.
100 Research Drive Wilmington, MA 01887 USA
Tel: 781 932-0202 | Fax: 781 932-3324
www.trexel.com

EUROPE • CHINA • JAPAN • KOREA • NORTH AMERICA • AUSTRALIA