



## Mold and part design considerations

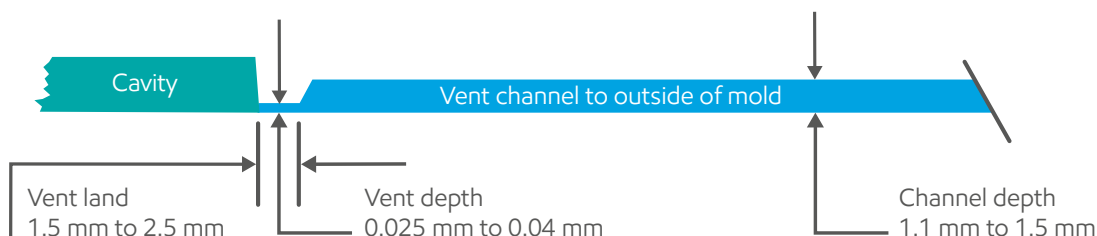
**Good temperature control** of the cavity and core surfaces is very important as this influences crystallization and cooling of the injected material. Cooling lines/system should be designed and operated accordingly.

**Runners and gates** should be fully sized to promote easy flow, avoid excessive shear heating of the material and allow a range of filling speeds in process optimization for surface appearance and dimensional control. Gate diameter/thickness should be around 50% to 70% of part wall thickness at the gate. Preferred gate location is at thickest point on a part to promote resin flow from thick to thin sections for optimum mold filling and packing.

**Avoid large differences ( $\geq 25\%$ ) in wall thickness** in adjacent regions of a part.

**Avoid direct contact with Copper** in the mold especially for applications requiring heat ageing performance.

**Generous venting** is important in molds designed for these grades. Mold filling can cause "dieseling", involving high pressurization of air in the mold, burning of the leading edge of the melt front and higher fill pressures. Dieseling can be reduced/avoided with proper venting of mold cavity periphery, lifters, slides and molded part corners. Vent widths of 10 to 20 mm spaced at 25 to 75 mm are suggested depending on part size (see dimensions below).



©2017 ExxonMobil. ExxonMobil, the ExxonMobil logo, the interlocking "X" device and other product or service names used herein are trademarks of ExxonMobil, unless indicated otherwise. This document may not be distributed, displayed, copied or altered without ExxonMobil's prior written authorization. To the extent ExxonMobil authorizes distributing, displaying and/or copying of this document, the user may do so only if the document is unaltered and complete, including all of its headers, footers, disclaimers and other information. You may not copy this document to or reproduce it in whole or in part on a website. ExxonMobil does not guarantee the typical (or other) values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. The information in this document relates only to the named product or materials when not in combination with any other product or materials. We based the information on data believed to be reliable on the date compiled, but we do not represent, warrant, or otherwise guarantee, expressly or impliedly, the merchantability, fitness for a particular purpose, freedom from patent infringement, suitability, accuracy, reliability, or completeness of this information or the products, materials or processes described. The user is solely responsible for all determinations regarding any use of material or product and any process in its territories of interest. We expressly disclaim liability for any loss, damage or injury directly or indirectly suffered or incurred as a result of or related to anyone using or relying on any of the information in this document. This document is not an endorsement of any non-ExxonMobil product or process, and we expressly disclaim any contrary implication. The terms "we," "our," "ExxonMobil Chemical" and "ExxonMobil" are each used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliate either directly or indirectly stewarded.

Contact us for more information:  
[exxonmobilchemical.com/pp](http://exxonmobilchemical.com/pp)

S1019-161E49

**ExxonMobil**  
Energy lives here™