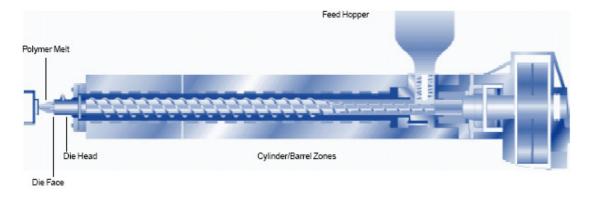
Extrusion Guidelines for HDPE Pipe Grade Resins

INEOS Olefins & Polymers offers an exclusive line of HDPE grades that are successfully used for the commercial production of pipes around the world. These HDPE pipe grades run successfully on various types and designs of extruders to produce pipe over 63 inches (1600mm) in diameter.

INEOS Olefins & Polymers HDPE pipe grade materials extrude well at conditions similar to those traditionally used to process other PE pipe materials. We recommend the following extrusion parameters based on tests performed at our laboratory and at various third party testing sites.

Cylinder/Barrel Temperatures Head Temperature Die Temperature Melt Temperature 355-400 °F (180-205 °C) 375-410 °F (190-205 °C) 375-410 °F (190-205 °C) 390-430 °F (200-220 °C)



Typical Pipe Extruder

Product inquiries:

Marina View Headquarters 2600 South Shore Blvd. Suite 500

League City, Teas 77573 Telephone: 281-535-6600 Fax: 281-535-6764

Customer Service: 800-527-5419

Battleground Manufacturing Complex

1230 Battleground Road La Porte, Texas 77571 Telephone: 713-307-3000 Fax: 713-307-3521

Technical Center: 800-338-0489

www.ineos-op.com www.innovene.com/orders

Technical information contained herein is furnished without charge or obligation, and is given and accepted at recipient's sole risk. Because conditions of use may vary and are beyond our control, Ineos Olefins & Polymers USA makes no representation about, and is not responsible or liable for the accuracy or reliability of data, nor for toxicological effects or Industrial Hygiene requirements associated with particular uses of any product described herein. Nothing contained in this document shall be considered a recommendation for any use that may infringe patent rights, or an endorsement of any particular material, equipment, service, or other item not supplied by INEOS Olefins & Polymers USA. To the best of our knowledge, the information contained herein is accurate. However, neither INEOS Olefins & Polymers USA, nor any of itsaffiliates assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Any "Properties" and/or "Applications" listed in this document are not specifications. They are provided as information only and in no way modify, amend, enlarge, or create any specification or warranty, and ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXCLUDED.

The name INEOS Olefins & Polymers USA and its logo are trademarks of INEOS USA LLC or its affiliated companies October 2007 © 2007 INEOS Olefins & Polymers USA

