

APPLICATION SHEET

Polymers · Polymer Manufacturing
DSC 214 Polyma

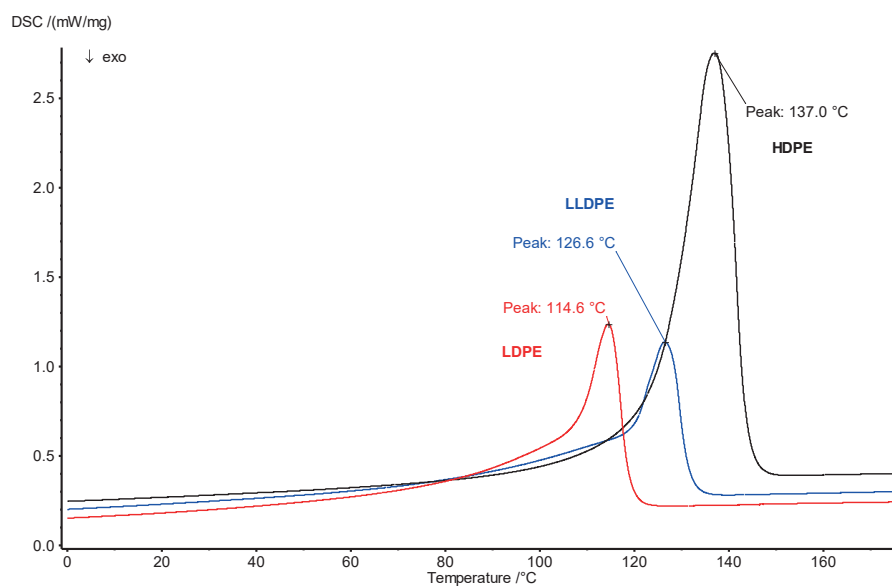
Polyethylene LDPE LLDPE HDPE

Introduction

Polyethylene (PE) is a thermoplastic material which is heavily used for consumer products such as foils (wrapping, packaging), containers (bottles, tanks), pipes, tubes or other engineered products. PE is odorless, flavorless, physiologically indifferent and can therefore be used in the food industry.

PE is classified in the categories:

- UHMWPE (ultra-high molecular weight PE)
- HDPE (high density PE)
- LDPE (low density PE)
- LLDEP (linear low density PE)



Test Conditions

Temperature range: -150 ... -180°C
Heating rate: 10 K/min
Atmosphere: Nitrogen at 20 ml/min
Sample mass: 8 mg
Crucible: Aluminium
Sensor: Type E

Test Results

As polymer materials show a melting range for the characterization, the melting peak is employed. The above plot shows the different melting points of the different PE varieties. The lowest melting peak shows LDPE (here 115°C), followed by LLDPE (here 127°C) and HDPE (here 137°C).