

APPLICATION SHEET

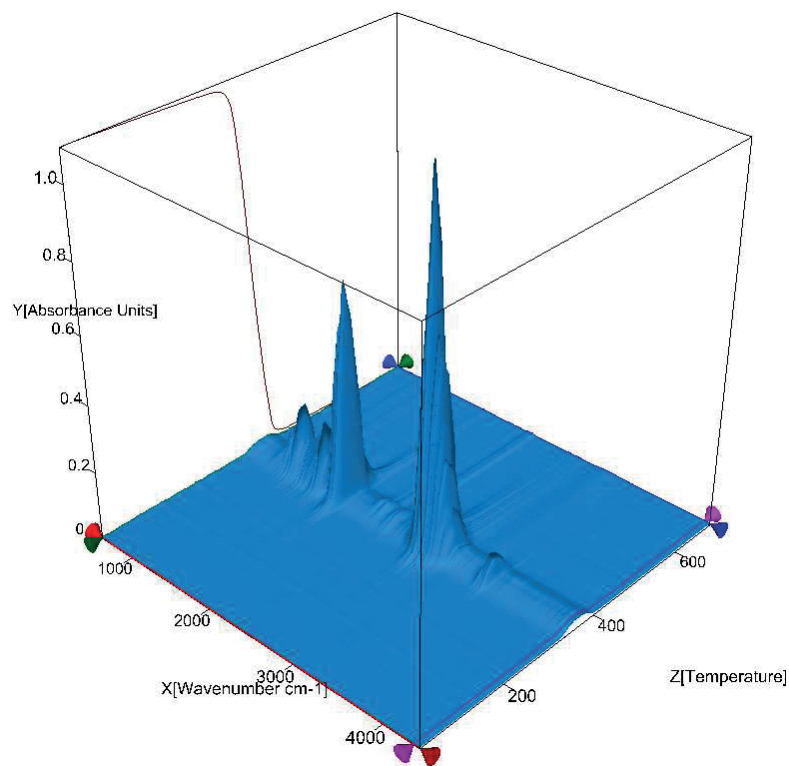
Polymers · Polymer Manufacturing
TG 209 **F1 Iris**® – FT-IR

Polyoxymethylene (POM)

Introduction

Polyoxymethylene (POM) is commonly used as a direct replacement for metals due to its stiffness, dimensional stability and corrosion resistance.

Polyoxymethylene is an engineering plastic used to make gears, bushings and other mechanical parts. As the most important polyacetal resin, it is a thermoplastic with good physical and processing properties.

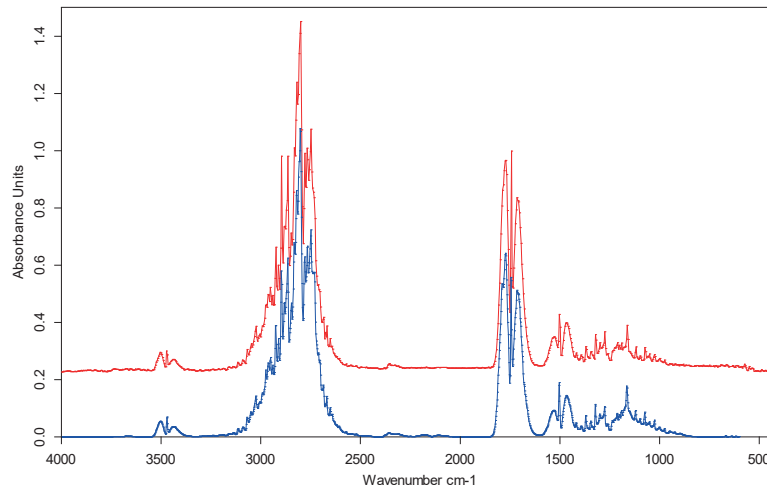


Test Conditions:

Temperature range:	RT ... 700°C	Sample mass:	12 mg
Heating/cooling rates:	20 K/min	Crucible:	Alumina
Atmosphere:	Nitrogen (40 ml/min)	Sensor:	Platinel

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Test Results

Figure 1 depicts the 3-dimensional plot of the FT-IR spectra with the TGA curve. During pyrolysis of POM, formaldehyde

is the dominant decomposition product. This is confirmed by a library spectra comparison which is shown in figure 2 (red = library spectra, blue = measured spectra at 358°C).