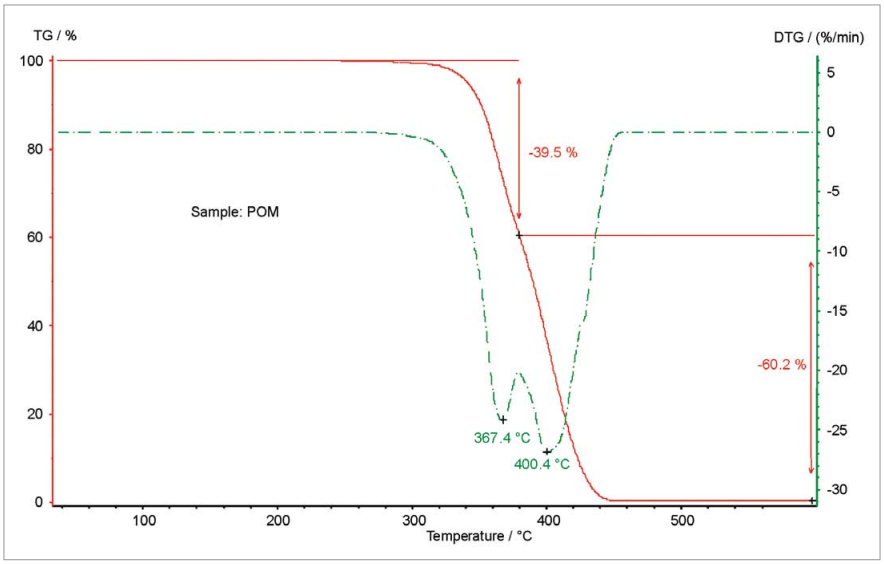
# APPLICATION**SHEET**

## POLYMERS – POLYMER MANUFACTURING

# POLYOXYMETHYLENE

Polyoxymethylene, also known as polyacetal or polyformaldehyde, is a thermoplastic with good physical and processing properties. It has good mechanical properties with respect to stiffness, fatigue endurance and creep resistance and a reasonably high impact strength. It is therefore widely used as an engineering plastic to produce gears, bushings and other mechanical parts.




### Instrument

TG 209 ***F3*** *Tarsus*®

### Test Conditions

| | |
|---|---|
| Temperature range | 35°C ... 600°C |
| Heating rate | 20 K/min |
| Atmosphere | Nitrogen at 20 ml/min |
| Sample mass | 9.48 mg |
| Crucible | $Al_2O_3$ |

### Results

Degradation of the polyoxymethylene occured in two steps, starting slightly above 300°C. The first one at 367.4°C (peak of the DTG curve) is related to a mass loss of 39.5%. The second mass loss between 380°C and 450°C amounts 60.2%. Both mass-loss steps can be referred to the cracking of the polyester backbone. Nearly no carbon black is formed during the pyrolytic decomposition of the material.

NGB · AS · 033-2006 · EN · 06/13 · Technical specifications are subject to change.

**NETZSCH-Gerätebau GmbH**
Wittelsbacherstraße 42 · 95100 Selb · Germany
Tel.: +49 9287/881-0 · Fax: +49 9287/881505
at@netzsch.com · www.netzsch.com