# Pmma temperature storage modulus curve

What is the angular frequency of a PMMA melt?
Figure 2 shows this phenomenon for the storage modulus G' and loss modulus G" as a function of the angular frequency at temperatures of 180 °C,220 °C,and 280 °C for a PMMA melt. At the selected reference temperature of 220 °C,both G' and G" intersect each other at an angular frequency of 1.78 rad/s.

Does temperature and strain rate affect material behaviour of PMMA?
Conclusions In this study, the effects of temperature and strain rate on the material behaviour of PMMA were systematically considered. A three-dimensional elasto-viscoplastic constitutive model was established to depict the mechanical behaviour of PMMA in a variety of strain rate and temperature ranges.

Does PMMA show a crossover at 280 °C?
At 280 °C,PMMA exhibits this crossover at a much higher frequency of 144 rad/s. In contrast to this,at 180 °C,PMMA does not show any crossover of G' and G" at all. Depending on the temperature,G' and G" appear to show different parts of the same curve.

Can a constitutive model capture mechanical behaviour of PMMA?
The experimental data at 298 and 383 K were utilized to determine the thermal-related parameters. In the case of 323,343,363 ,and 373 K,compared to the experimental curves,it is found that the developed constitutive model can capture the mechanical behaviour of PMMA. Fig. 14.

What are the stress-strain curves of PMMA?
As discussed, the stress-strain curves of PMMA are characterized by complex behaviour with the elastic response followed by plastic yielding accompanied by initial material strain hardening, with subsequent softening and then final hardening of the materials until fracture (Fig. 4).

What is the tensile and bending temperature of PMMA?
Tensile and bending tests of PMMA were performed over an application-relevant temperature range (20 °C,40 °C,60 °C and 80 °C)below its glass transition point (108 °C). The obtained experimental data were used to quantify parameters of the two constitutive models.

Figure 9 represents the storage modulus of 50/50 NR/PMMA as a function of frequency in the low- and high-temperature regions. A slight hump in the plateau region is due to the joining of the ...

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