

Glass

How long does it take for glass to flow appreciably?

Answer

It is often said that the glass of old windows (for example in medieval cathedrals) is thicker at its base because it has flowed in the time since its manufacturing. As molten glass does flow, one can measure its viscosity and extrapolate to room temperature in order to assess the characteristic time scale on which glass flows under everyday conditions. For glass typically used in medieval cathedrals, this time scale has been estimated at $\sim 10^{23}$ years - about 10^{13} times more than the measured age of the Universe! Good luck finding a cathedral which is that old!

Further Reading

E.D. Zanotto, P.K. Gupta, Am. J. Phys. 67 (1999) 260-262; <https://doi.org/10.1119/1.19236>.