Saybolt universal second

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The **Saybolt universal second** (**SUS** or **SSU**) is a measure of kinematic viscosity used in classical mechanics. It is the time that 60 cm^3 of oil takes to flow through a calibrated tube at a controlled temperature, 38°C.[1] The SUS is used for oils with flowing time up to 5600 seconds, in the range of low to medium viscosity such as machine oils.

When the flowing time surpasses 5600 seconds, Saybolt Furol seconds (SFS or SSF) should be used instead of Saybolt universal seconds. Saybolt Furol seconds is measured with a controlled temperature of 50°C. The tube diameter in the two scales is such that the Furol viscosity is one-tenth of the universal viscosity:

$$\mathbf{Saybolt\ Furol\ viscosity} = \frac{\mathbf{Saybolt\ universal\ viscosity}}{10}$$

Calculation of the SUS is specified by the ASTM D2161 specification.

References

1. Viscosity By Different Instruments (http://www.spectro-oils.com/wp-content/uploads/2012/10/Viscosity-conversion-tables.pdf) Retrieved 2015-11-27

External links

- Online viscosity converter (http://www.processassociates.com/process/convert/cf_vkn.htm)
- Measurement apparatus (http://www.tpub.com/content/engine/14105/css/14105_36.htm)
- Useful Saybolt reference (http://www.engineeringtoolbox.com/dynamic-absolute-kinematic-viscosity-d_412.html)
- About Saybolt units (http://www.unc.edu/~rowlett/units/dictS.html)