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Physics

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Sept 25, 2015

1. No. The material standard has been replaced by the distance light travels in vacuum during 1 s.
2. The only material standard in use today is a cylinder of platinum-iridium alloy used as the prototype of a kilogram.
3. The metre standard is based on fixing the speed of light to be $299,792,458$ m/s.
4. By using light emission from caesium-133, the standard of a second can be fixed to a very high precision.