

50 years of the International System of Units (SI) in Poland

The International System of Units (SI) has been introduced in Poland by virtue of the Prime Minister decree from 23 June 1966 on establishing of legal units of measurement. This year we celebrate the 50 anniversary of the SI introduction. The SI base on the International System of Quantities which names and symbols together with prefixes, their names and rules of application have been adopted by 11th General Conference on Weights and Measures (CGPM) 1960.

The SI consists of 7 units and derivative units. The basic SI units are:

The metre (m) is the length of the path travelled by light in vacuum during a time interval of $1/299\,792\,458$ of a second.

The kilogram (kg) is the unit of mass; it is equal to the mass of the international prototype of the kilogram.

The second (s) is the duration of $9\,192\,631\,770$ periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium 133 atom.

The ampere (A) is that constant current which, if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section, and placed 1 metre apart in vacuum, would produce between these conductors a force equal to 2×10^{-7} newton per metre of length.

The kelvin (K), unit of thermodynamic temperature, is the fraction $1/273.16$ of the thermodynamic temperature of the triple point of water.

The mole (mol) is the amount of substance of a system which contains as many elementary entities as there are atoms in 0.012 kilogram of carbon 12; its symbol is "mol". When the mole is used, the elementary entities must be specified and may be atoms, molecules, ions, electrons, other particles, or specified groups of such particles.

The candela (cd) is the luminous intensity, in a given direction, of a source that emits

monochromatic radiation of frequency 540×10^{12} hertz and that has a radiant intensity in that direction of 1/683 watt per steradian.

(source: SI BIPM Brochure)