

PROPERTIES OF ELEMENTARY PARTICLES (D5)

<i>Particle Name</i>	<i>Symbol</i>	<i>Antiparticle</i>	<i>Invariant Mass m_0 [MeV/c²] (Uncertainty)</i>	<i>Electric Charge Q [e]</i>	<i>Type and Sub-type / Generation</i>	<i>Spin S</i>	<i>Mean Life τ [per eV]</i>
Up Quark	u	Antiup (\bar{u})	$2.16^{+0.49}_{-0.26}$	$+\frac{2}{3}$	Quark: Up-type, Gen. I	$\frac{1}{2}$	-
Down Quark	d	Antidown (\bar{d})	$4.67^{+0.48}_{-0.17}$	$-\frac{1}{3}$	Quark: Down-type, Gen. I	$\frac{1}{2}$	-
Charm Quark	c	Anticharm (\bar{c})	$1\,270.0 \pm 20$	$+\frac{2}{3}$	Quark: Up-type, Gen. II	$\frac{1}{2}$	-
Strange Quark	s	Antistrange (\bar{s})	$93.4^{+8.6}_{-3.4}$	$-\frac{1}{3}$	Quark: Down-type, Gen. II	$\frac{1}{2}$	-
Top Quark	t	Antitop (\bar{t})	$172\,690.0 \pm 300$	$+\frac{2}{3}$	Quark: Up-type, Gen. III	$\frac{1}{2}$	-
Bottom Quark	b	Antibottom (\bar{b})	$4\,180^{+30}_{-20}$	$-\frac{1}{3}$	Quark: Down-type, Gen. III	$\frac{1}{2}$	-
Electron	e	Positron (e^+)	$0.510\,998\,950\,00 \pm 0.000\,000\,000\,15$	-1	Lepton: Charged, Gen. I	$\frac{1}{2}$	$> 6.6 \times 10^{28} \text{ a}$
Electron Neutrino	ν_e	Electron Antineutrino ($\bar{\nu}_e$)	$< 0.000\,001\,1$	$< 4 \times 10^{-35}$	Lepton: Neutral, Gen. I	$\frac{1}{2}$	$> 300 \text{ s}$
Muon	μ	Antimuon (μ^+)	$105.658\,375\,5 \pm 0.000\,002\,3$	-1	Lepton: Charged, Gen. II	$\frac{1}{2}$	$(2.196\,981\,1 \pm 0.000\,002\,2) \times 10^{-6} \text{ s}$
Muon Neutrino	ν_μ	Muon Antineutrino ($\bar{\nu}_\mu$)	< 0.19	$< 4 \times 10^{-35}$	Lepton: Neutral, Gen. II	$\frac{1}{2}$	$> 300 \text{ s}$
Tau (Tauon)	τ	Antitau (τ^+)	$1\,776.86 \pm 0.12$	-1	Lepton: Charged, Gen. III	$\frac{1}{2}$	$(290.3 \pm 0.5) \times 10^{-15} \text{ s}$
Tau Neutrino	ν_τ	Tau Antineutrino ($\bar{\nu}_\tau$)	< 18.2	$< 4 \times 10^{-35}$	Lepton: Neutral, Gen. III	$\frac{1}{2}$	$> 300 \text{ s}$
Photon	γ	-	$< 1 \times 10^{-24}$	$< 1 \times 10^{-46}$	Boson: Gauge	1	-
Gluon	g	-	0 (Theoretical)	0	Boson: Gauge	1	-
W⁺	W ⁺	-	$80\,377.0 \pm 12$	1	Boson: Gauge	1	-

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<i>W</i>	W^-	-	80 377.0 \pm 12	-1	Boson: Gauge	1	-
<i>Z</i>	Z	-	91 187.6 \pm 2.1	0	Boson: Gauge	1	-
<i>Higgs</i>	H^0	-	125 250.0 \pm 170	0	Boson: Scalar	0	1.6 $\times 10^{-22}$ s

Units:

- MeV/c²: Megaelectronvolts/Speed of Light² (Mass)
- e : Elementary Charge
- a: Year
- s: Second

Sources:

- Particle Name ^[1] ^[2]
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- Spin, S ^[1] ^[2]
- Mean Life, τ ^[1] ^[2] ^[3]