

## Muons in technetium (Tc)

Z	A [g/mol]	$\rho$ [g/cm <sup>3</sup> ]	I [eV]	$a$	$k = m_s$	$x_0$	$x_1$	$\bar{C}$	$\delta_0$
43 (Tc)	[97.90722 (3)]	11.500	428.0	0.16572	2.9738	0.0949	3.1253	4.7769	0.14
$T$	$p$ [MeV/c]	Ionization	Brems	Pair prod [MeV cm <sup>2</sup> /g]	Photonucl	Total	CSDA range [g/cm <sup>2</sup> ]		
10.0 MeV	$4.704 \times 10^1$	4.842				4.842	$1.173 \times 10^0$		
14.0 MeV	$5.616 \times 10^1$	3.824				3.824	$2.112 \times 10^0$		
20.0 MeV	$6.802 \times 10^1$	3.019				3.019	$3.897 \times 10^0$		
30.0 MeV	$8.509 \times 10^1$	2.367				2.367	$7.687 \times 10^0$		
40.0 MeV	$1.003 \times 10^2$	2.033				2.033	$1.227 \times 10^1$		
80.0 MeV	$1.527 \times 10^2$	1.545				1.545	$3.554 \times 10^1$		
100. MeV	$1.764 \times 10^2$	1.459				1.459	$4.889 \times 10^1$		
140. MeV	$2.218 \times 10^2$	1.374				1.374	$7.727 \times 10^1$		
200. MeV	$2.868 \times 10^2$	1.332				1.333	$1.218 \times 10^2$		
253. MeV	$3.431 \times 10^2$	1.325				1.326	<i>Minimum ionization</i>		
300. MeV	$3.917 \times 10^2$	1.328	0.000		0.000	1.329	$1.971 \times 10^2$		
400. MeV	$4.945 \times 10^2$	1.346	0.000		0.000	1.346	$2.719 \times 10^2$		
800. MeV	$8.995 \times 10^2$	1.428	0.001		0.000	1.429	$5.601 \times 10^2$		
1.00 GeV	$1.101 \times 10^3$	1.461	0.001		0.000	1.462	$6.984 \times 10^2$		
1.40 GeV	$1.502 \times 10^3$	1.514	0.001	0.000	0.001	1.516	$9.668 \times 10^2$		
2.00 GeV	$2.103 \times 10^3$	1.571	0.002	0.001	0.001	1.575	$1.355 \times 10^3$		
3.00 GeV	$3.104 \times 10^3$	1.635	0.004	0.003	0.001	1.644	$1.975 \times 10^3$		
4.00 GeV	$4.104 \times 10^3$	1.679	0.006	0.005	0.002	1.692	$2.574 \times 10^3$		
8.00 GeV	$8.105 \times 10^3$	1.779	0.015	0.015	0.003	1.814	$4.849 \times 10^3$		
10.0 GeV	$1.011 \times 10^4$	1.810	0.020	0.021	0.004	1.856	$5.939 \times 10^3$		
14.0 GeV	$1.411 \times 10^4$	1.853	0.031	0.034	0.005	1.924	$8.054 \times 10^3$		
20.0 GeV	$2.011 \times 10^4$	1.895	0.048	0.056	0.008	2.008	$1.110 \times 10^4$		
30.0 GeV	$3.011 \times 10^4$	1.941	0.079	0.097	0.011	2.129	$1.594 \times 10^4$		
40.0 GeV	$4.011 \times 10^4$	1.971	0.111	0.142	0.015	2.241	$2.051 \times 10^4$		
80.0 GeV	$8.011 \times 10^4$	2.039	0.252	0.341	0.030	2.662	$3.686 \times 10^4$		
100. GeV	$1.001 \times 10^5$	2.060	0.326	0.448	0.037	2.872	$4.409 \times 10^4$		
140. GeV	$1.401 \times 10^5$	2.091	0.479	0.669	0.051	3.290	$5.710 \times 10^4$		
200. GeV	$2.001 \times 10^5$	2.123	0.718	1.018	0.073	3.933	$7.376 \times 10^4$		
232. GeV	$2.324 \times 10^5$	2.136	0.848	1.204	0.084	4.274	<i>Muon critical energy</i>		
300. GeV	$3.001 \times 10^5$	2.159	1.126	1.603	0.109	4.998	$9.627 \times 10^4$		
400. GeV	$4.001 \times 10^5$	2.185	1.548	2.209	0.145	6.088	$1.144 \times 10^5$		
800. GeV	$8.001 \times 10^5$	2.248	3.292	4.693	0.294	10.529	$1.638 \times 10^5$		
1.00 TeV	$1.000 \times 10^6$	2.269	4.189	5.965	0.369	12.792	$1.810 \times 10^5$		
1.40 TeV	$1.400 \times 10^6$	2.300	5.986	8.502	0.523	17.312	$2.077 \times 10^5$		
2.00 TeV	$2.000 \times 10^6$	2.333	8.736	12.375	0.757	24.202	$2.369 \times 10^5$		
3.00 TeV	$3.000 \times 10^6$	2.372	13.329	18.811	1.157	35.669	$2.708 \times 10^5$		
4.00 TeV	$4.000 \times 10^6$	2.399	17.984	25.316	1.564	47.264	$2.951 \times 10^5$		
8.00 TeV	$8.000 \times 10^6$	2.467	36.760	51.469	3.251	93.948	$3.539 \times 10^5$		
10.0 TeV	$1.000 \times 10^7$	2.490	46.224	64.616	4.117	117.448	$3.729 \times 10^5$		
14.0 TeV	$1.400 \times 10^7$	2.524	65.101	90.848	5.896	164.370	$4.016 \times 10^5$		
20.0 TeV	$2.000 \times 10^7$	2.561	93.588	130.368	8.622	235.140	$4.319 \times 10^5$		
30.0 TeV	$3.000 \times 10^7$	2.603	141.013	196.123	13.334	353.074	$4.664 \times 10^5$		
40.0 TeV	$4.000 \times 10^7$	2.634	188.613	262.037	18.158	471.444	$4.909 \times 10^5$		
80.0 TeV	$8.000 \times 10^7$	2.710	379.318	525.878	38.304	946.210	$5.496 \times 10^5$		
100. TeV	$1.000 \times 10^8$	2.735	474.840	657.920	48.710	1184.206	$5.684 \times 10^5$		