Table 1. Comparison of superconducting transition temperatures $T_c(0)$ for zirconium as obtained from different authors

Reference	Purity of stock material	$T_c(0)$ [K]	Crystal structure[a]	Samples condition and history
19	—	0.70	—	Zr metal and paramagnetic salt mixed and pressed into a pill
20	99.9%	0.565	—	Unannealed } pressed into salt pill
		0.546	—	Annealed }
5	99.99%	0.52	—	Unannealed
		0.46	—	Heat treated at 970 K in He atmosphere
		0.55	—	After release of pressure from $p > 10$ kbar
18	99.95%	0.73	α	Machined from the as-cast sample
		0.70	α	after release of pressure from 45 kbar
		0.61	α	heat treated at 570 K; pressure 5×10^{-6} Torr
		0.60	α	Retransformed from ω-Zr at 570 K, pressure 5×10^{-6} Torr
		0.55	α	Retransformed from ω-Zr at 1270 K, pressure 5×10^{-6} Torr All sample surfaces coloured after heat treatment
		0.65	ω	After release of pressure from 65 kbar
21	isotopes	0.49	—	Degassed and heat treated
This work	99.9% Koch-Light Labs.	0.66	—	Cut and cold rolled at 300 K
		0.63_5	—	after release of pressure from $\gtrsim 40$ kbar
		0.72	—	after release of pressure from $\gtrsim 50$ kbar
		1.03	—	Cold worked at 4.2 K up to ~40 kbar
	99.97% MRC	0.8	—	Cut and cold rolled at 300 K
		0.5	—	after heat treatment at 1070 K and 10^{-10} Torr
22	99.95%	1.3[b]	α	Thin films evaporated at 370 K and 5×10^{-8} Torr

[a] Included only, if X-ray analysis had been performed.
[b] This T_c value should actually not be compared with bulk transition temperatures, but it does illustrate the strong influence of lattice distortions on T_c.

purities, lattice defects within a single phase, and admixtures of other crystalline phases. As a consequence, α phase values extending from 0.46 to 0.73 K can be found for T_c in the literature (Table 1). Because of the complex behaviour involved, no

19 Kürti, N., Simon, F.: Proc. Roy. Soc. (London), Ser. A **151**, 610 (1935).
20 Smith, T. S., Daunt, J. G.: Phys. Rev. **88**, 1172 (1952).
21 Bucher, E., Müller, J., Olsen, J. L., Palmy, C.: Phys. Letters **15**, 303 (1965).
22 Friebertshauser, P. E., McCamont, J. W.: J. Vacuum Sci. Technol. **6**, 184 (1969).