

## APPENDIX8

### Current leads copper RRR

External current lead

$\phi_e := 1.75 \cdot \text{in}$  external diameter

$\phi_i := 1.62 \cdot \text{in}$  internal diameter

$$A := \pi \left[ \left( \frac{\phi_e}{2} \right)^2 - \left( \frac{\phi_i}{2} \right)^2 \right]$$

$A = 2.22 \cdot 10^{-4} \text{ m}^2$  cross section

$l := 1 \cdot \text{in}$  distance between voltage taps

$R := 1.08 \cdot 10^{-8} \cdot \text{ohm}$  measured average resistance

$$\rho_0 := A \cdot \frac{R}{l}$$

$\rho_0 = 9.439 \cdot 10^{-11} \frac{\text{kg} \cdot \text{m}^3}{\text{s}^3 \cdot \text{A}^2}$  copper resistivity at 4.2K

$\rho := 1.69 \cdot 10^{-8} \cdot \text{ohm} \cdot \text{m}$  copper resistivity at 300K

$$\text{RRR} := \frac{\rho}{\rho_0}$$

$\text{RRR} = 179.047$