

# Supplementary Information

## Supplementary Table 1.

Mechanical properties of the CrCoNi medium-entropy alloy in the temperature range from room temperature to liquid nitrogen temperature. (Statistically significant data are shown as mean  $\pm$  standard deviation.)

	293 K	198 K	77 K
Yield strength, $\sigma_y$ (MPa)	440 $\pm$ 13	554 $\pm$ 24	657 $\pm$ 22
Ultimate tensile strength, $\sigma_u$ (MPa)	884 $\pm$ 11	1053 $\pm$ 13	1311 $\pm$ 27
Strain to failure, $\epsilon_f$ (-)	0.73 $\pm$ 0.01	0.68 $\pm$ 0.09	0.90 $\pm$ 0.02
Strain hardening exponent, $n$	0.40 $\pm$ 0.01	0.40 $\pm$ 0.00	0.40 $\pm$ 0.01
Young's modulus, $E$ (GPa)	229	235	241
Work of fracture (MJ/m <sup>2</sup> )	3.5 $\pm$ 0.1	3.9 $\pm$ 0.5	6.4 $\pm$ 0.3
Fracture toughness, $K_{JIC}$ (MPa.m <sup>1/2</sup> )	208 $\pm$ 25	265 $\pm$ 34	273 $\pm$ 32
Crack growth toughness* (MPa.m <sup>1/2</sup> )	350 $\pm$ 50	402 $\pm$ 21	404 $\pm$ 44

\* at crack extension of  $\Delta a = 2.25$  mm.