

**Table 9. Thermocouples Rated for Nuclear Use**

Thermoelement Pair	Type	EMF Stability in a Nuclear Environment	Useful Temperature Limit	Comments
Chromel-Alumel	K	Very Good	2000°F	Well tested, commercially available, very stable
Iron/Constantan	J	Fair	1400°F	Iron is stable but the copper in the constantan is not. Not generally used since Chromel-Alumel is stable and covers the temperature range.
Chromel/Constantan	E	Fair	1600°F	Chromel is stable, constantan is not
Pt/Pt-Rh Alloys	R,S,B	Poor	2800°F	The rhodium transmutes to palladium causing emf changes.
W/W-Re Alloys	G,C,D	Very Poor	4000°F	Rhenium and osmium grow in the tungsten. Rhenium converts to osmium rapidly.