

Appendix C

Thermal Expansion Data

The following thermal expansion data has been compiled from numerous sources. It is presented for reference only because its accuracy cannot be assured. These curves are useful in calculating braze joint clearances when joining dissimilar metals. The method for calculating this information is presented in Chapter 2, Figure 2.3.

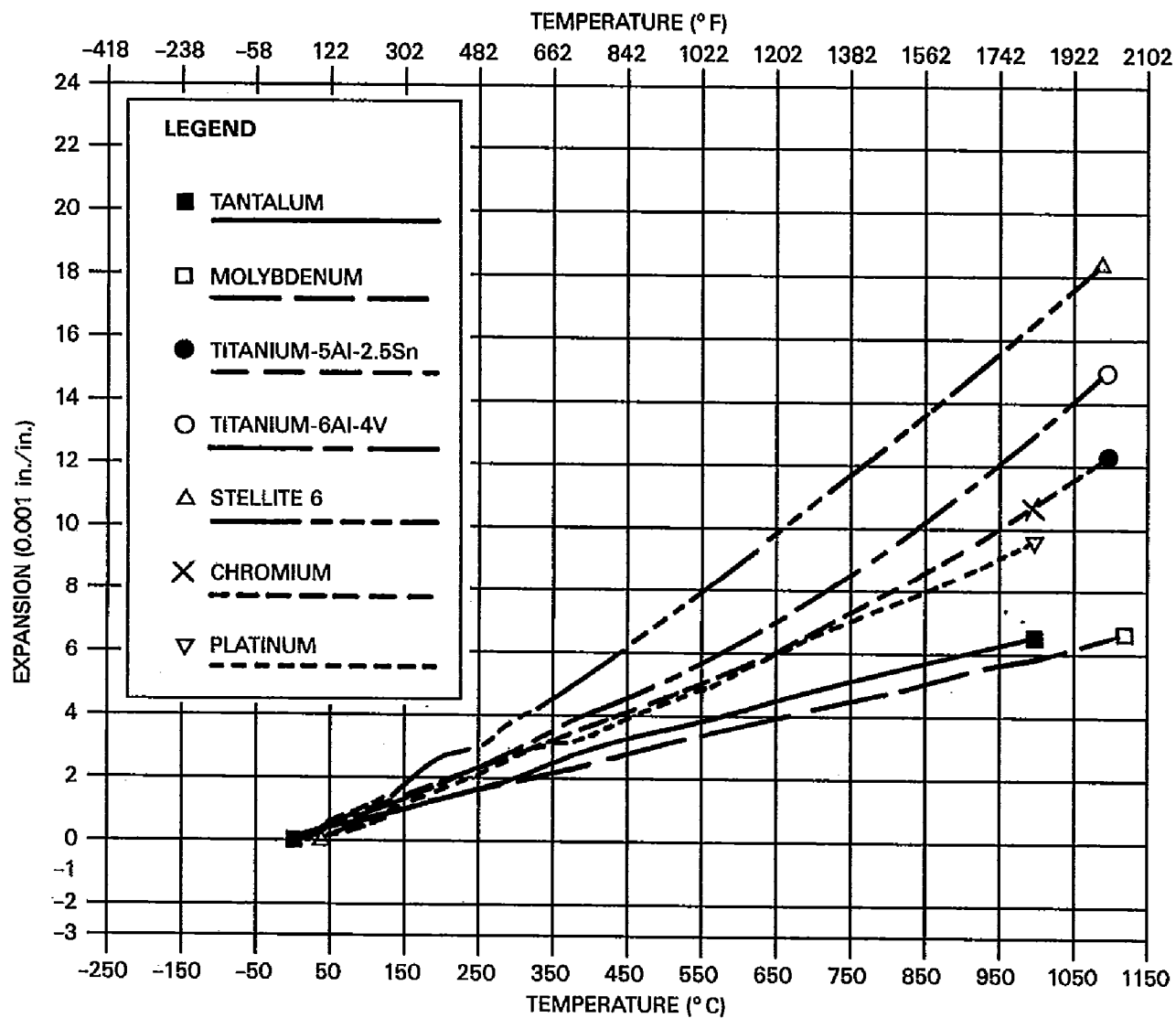
Materials Listed	Chart No.
Alumina 95%	C-3
Alumina 97.5%	C-3
Aluminum 1100	C-2
Aluminum 2024	C-8
Aluminum 2618	C-6
Aluminum 6061	C-2
Beryllium Copper 255	C-2
Beryllium-33 Al	C-7
Ceramvar	C-10
Chromium	C-1
Columbium-10 Ti-10 Mo	C-7
Copper OFHC	C-11
Gold	C-9
Graphite CDJ-97	C-5
Graphite P-03-XHT	C-5
Graphite 692	C-5
Hastelloy A	C-8
Hastelloy B	C-9
Hastelloy X	C-4
Inconel X	C-9
Inconel 600	C-4
Inconel 625	C-11
Inconel 718	C-4
Inconel 750	C-11
Invar 36	C-4
Iron	C-8
Kovar	C-10
Kovar 22	C-6
Molybdenum	C-1
Molybdenum-0.5 Ti-0.08 Zr	C-7
Monel K500	C-4
Monel 400	C-11
Ni Fe 42	C-3

(Continued)

468 / BRAZING HANDBOOK

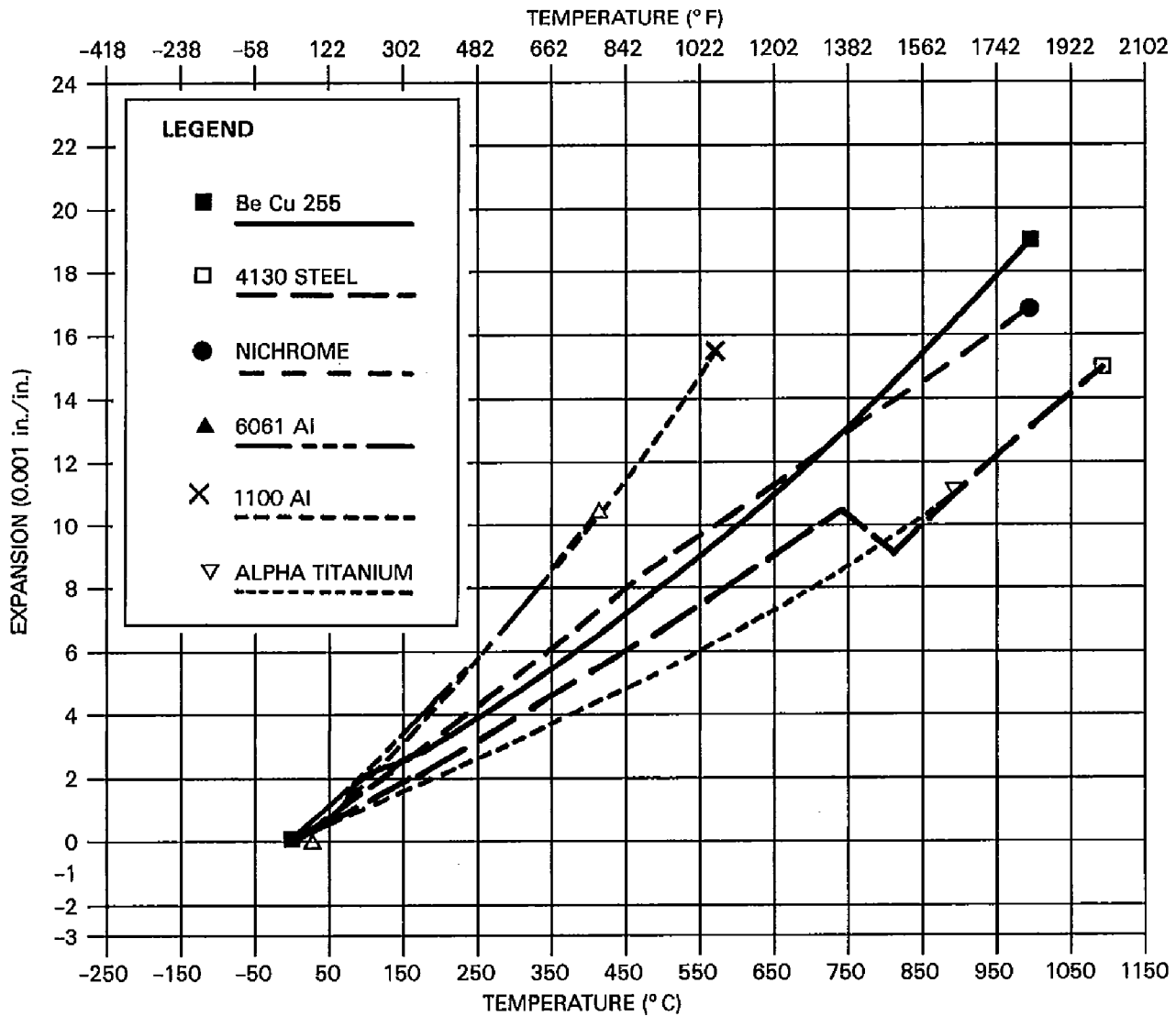
Materials Listed	Chart No.
Nichrome	C-2
Nickel 200	C-4
Platinum	C-1
Quartz (fused)	C-5
RA-333	C-10
René 41	C-7
René 62	C-7
Sapphire	C-3
Stainless Steel AM335	C-9
Stainless Steel 17-4 PH	C-9
Stainless Steel 203	C-10
Stainless Steel 304	C-3
Stainless Steel 321	C-4
Stainless Steel 330	C-8
Stainless Steel 347	C-11
Stainless Steel 416	C-10
Stainless Steel 431	C-8
Stainless Steel 440C	C-6
Steel, A-286	C-11
Steel, Low Carbon	C-5
Steel, Maraging, 18 Ni 250	C-10
Steel, Maraging, 18 Ni 300	C-10
Steel, 1010	C-8
Steel, 1018	C-6
Steel, 4130	C-2
Steel, 4340	C-6
Stellite 6	C-1
Tantalum	C-1
Titanium, Alpha	C-2
Tantalum-10W	C-9
Titanium-5 Al-2.5 Sn	C-1
Titanium-6 Al-4 V	C-1
Tungsten	C-5
Tungsten Carbide	C-9
Udimet A	C-7
Udimet 700	C-7
Waspaloy	C-3
Zirconium	C-5

THERMAL EXPANSION VS. TEMPERATURE

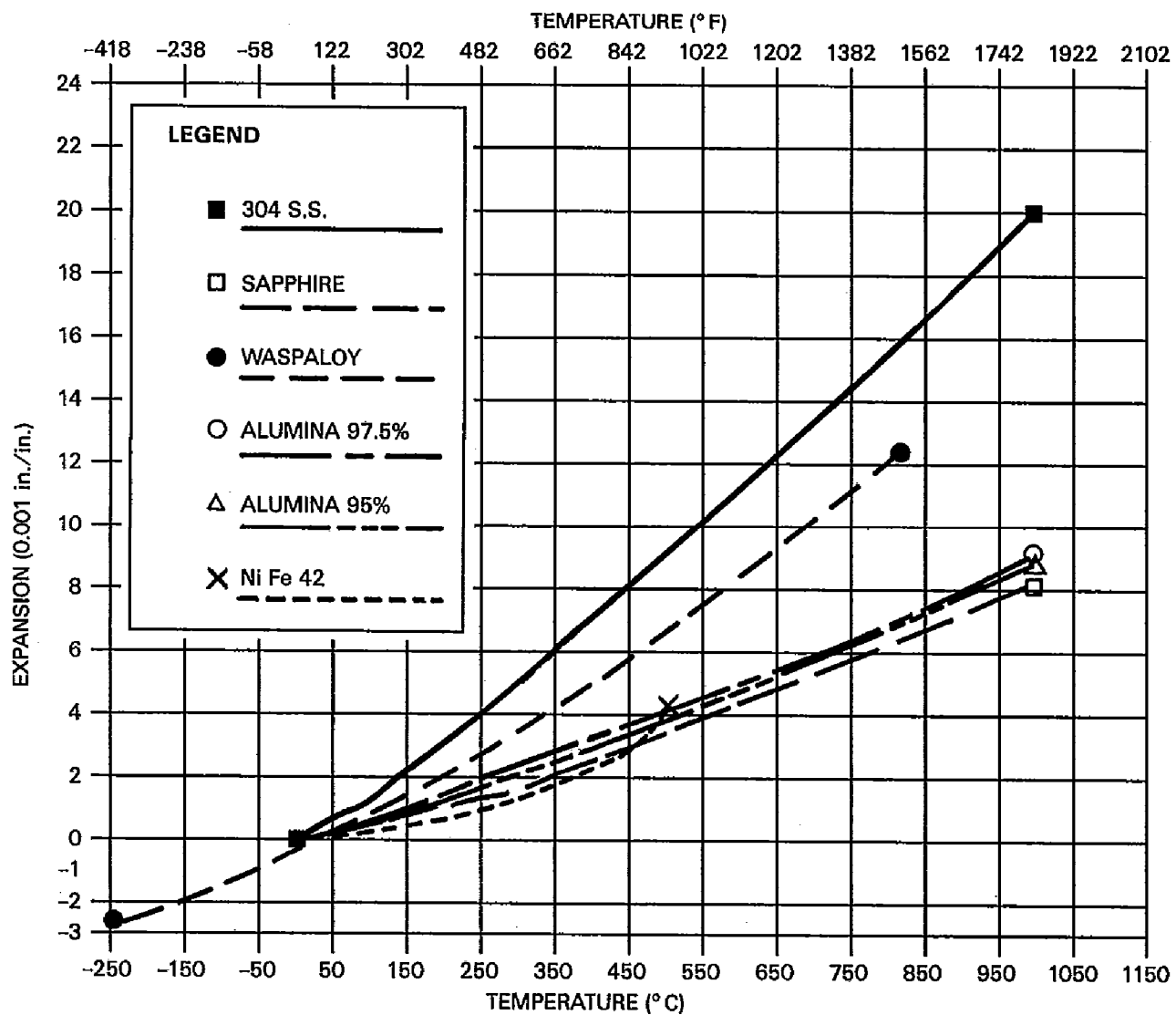


C1

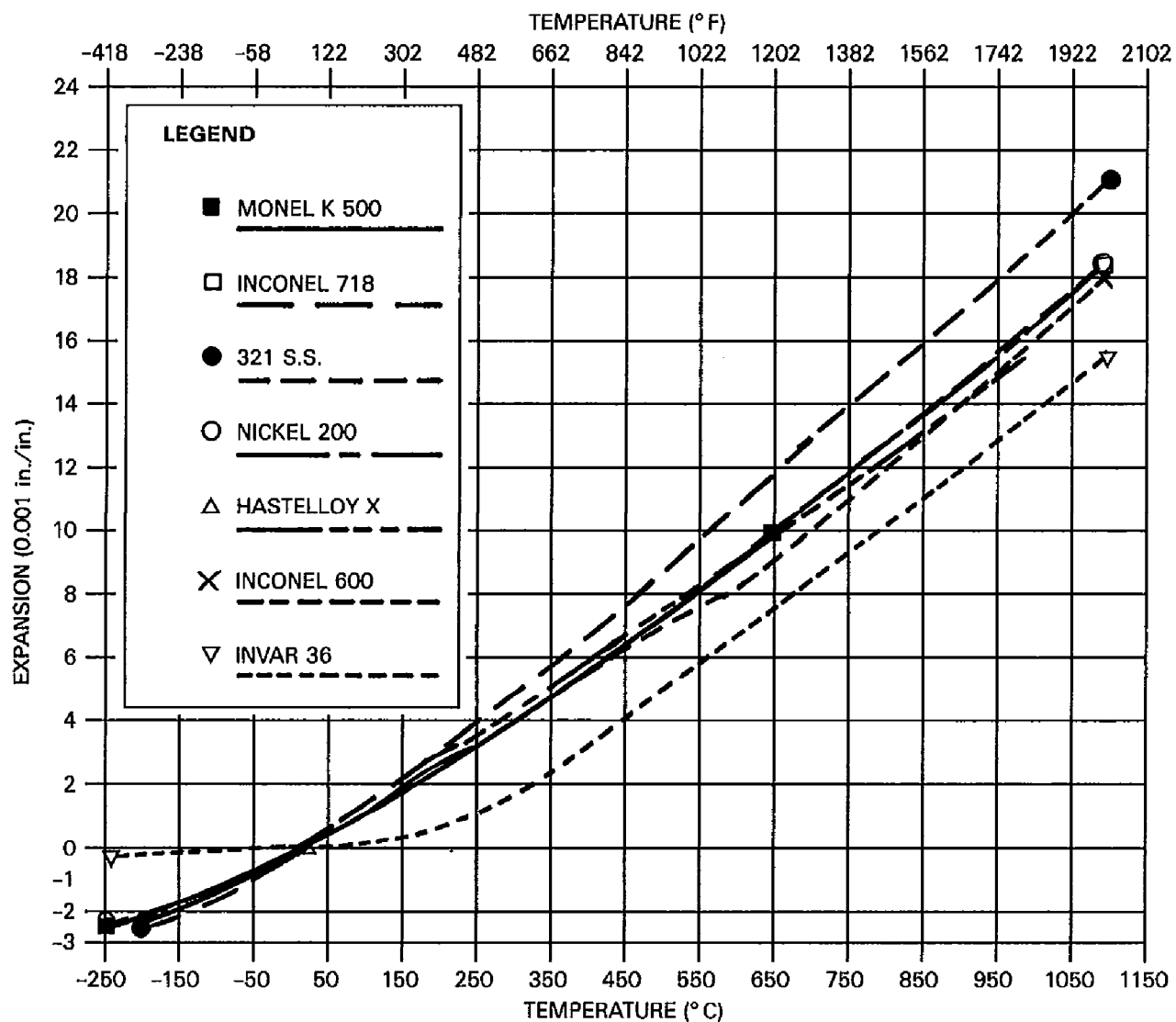
470 / BRAZING HANDBOOK



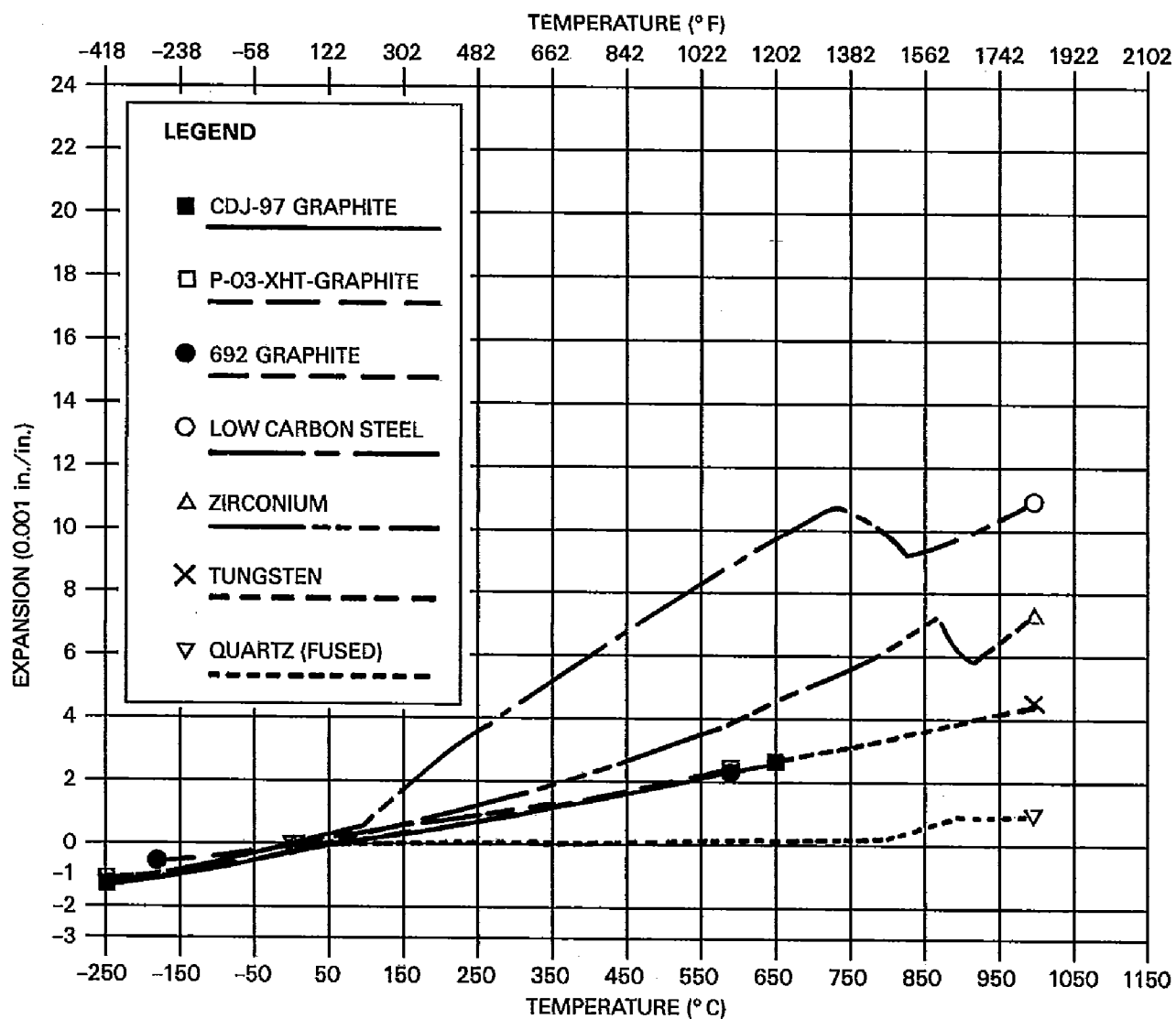
THERMAL EXPANSION VS. TEMPERATURE



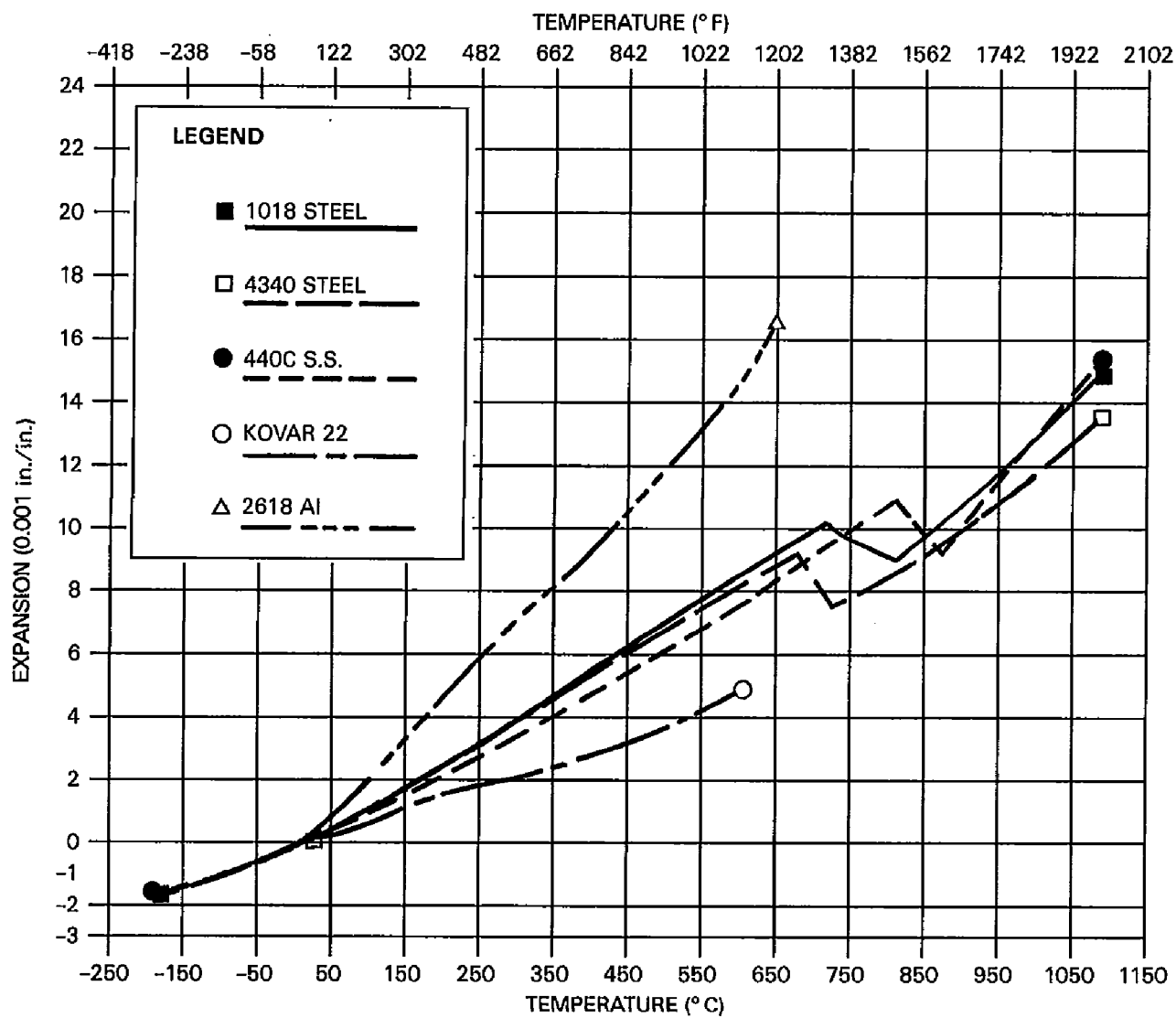
THERMAL EXPANSION VS. TEMPERATURE



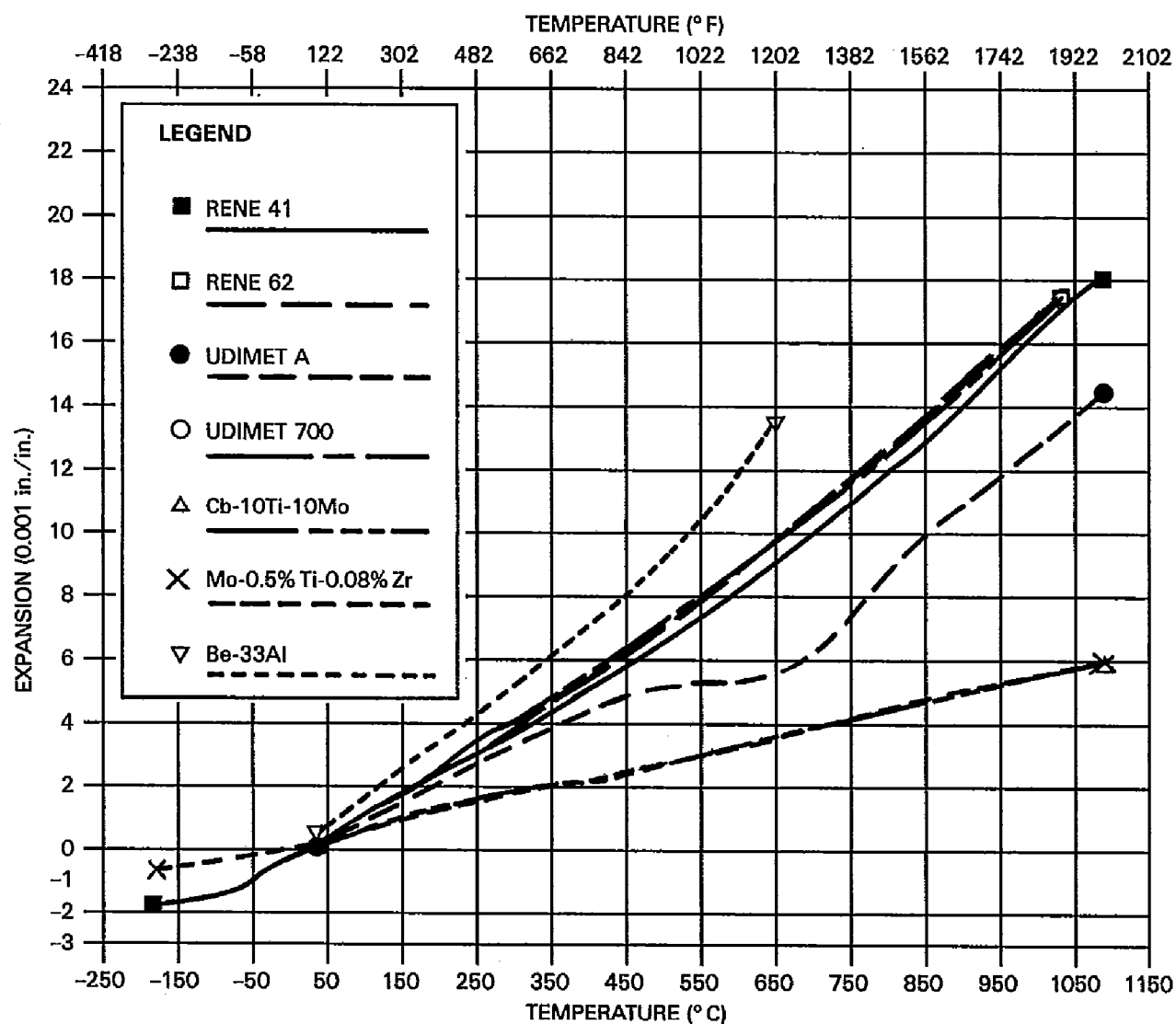
THERMAL EXPANSION VS. TEMPERATURE



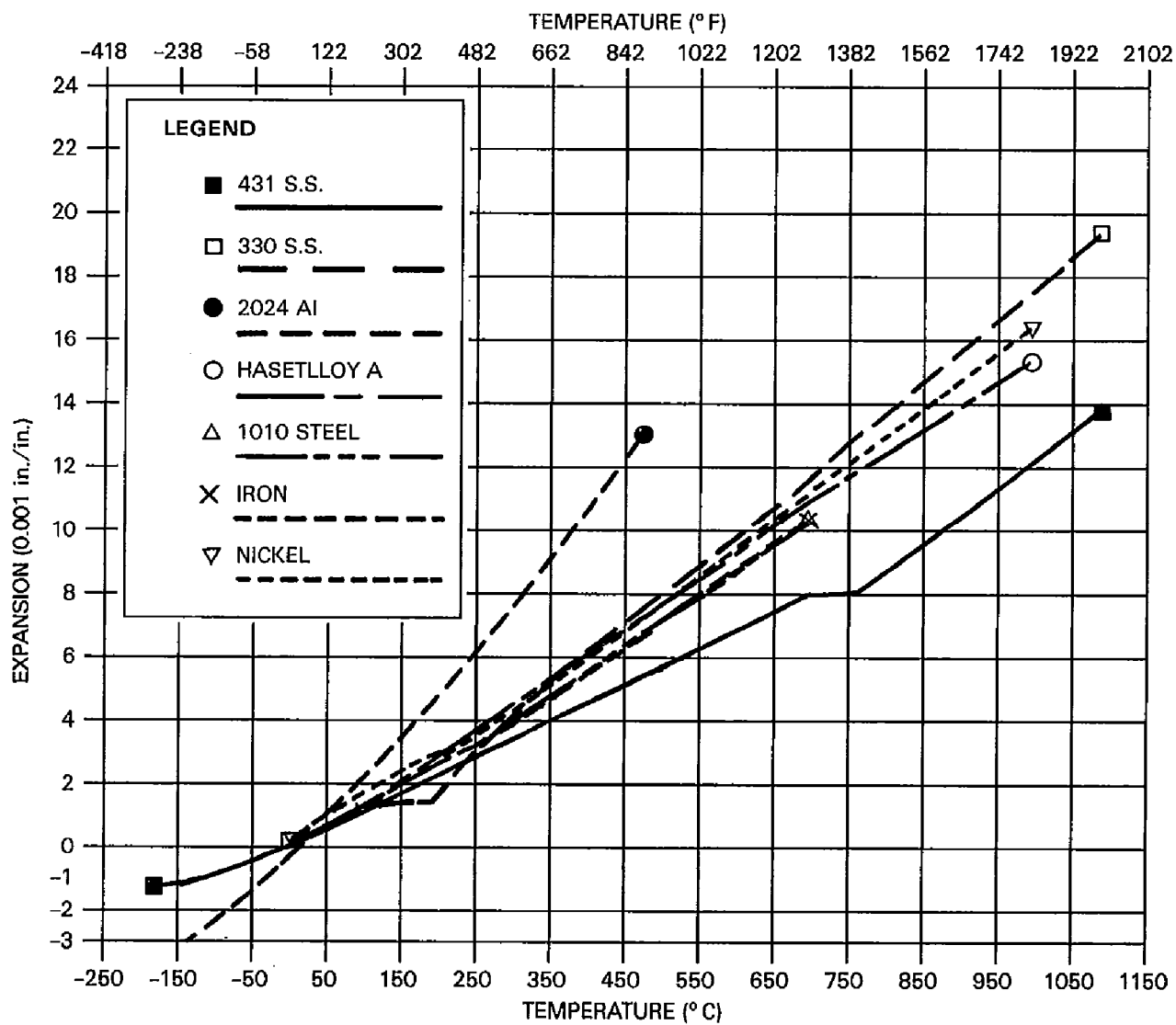
THERMAL EXPANSION VS. TEMPERATURE



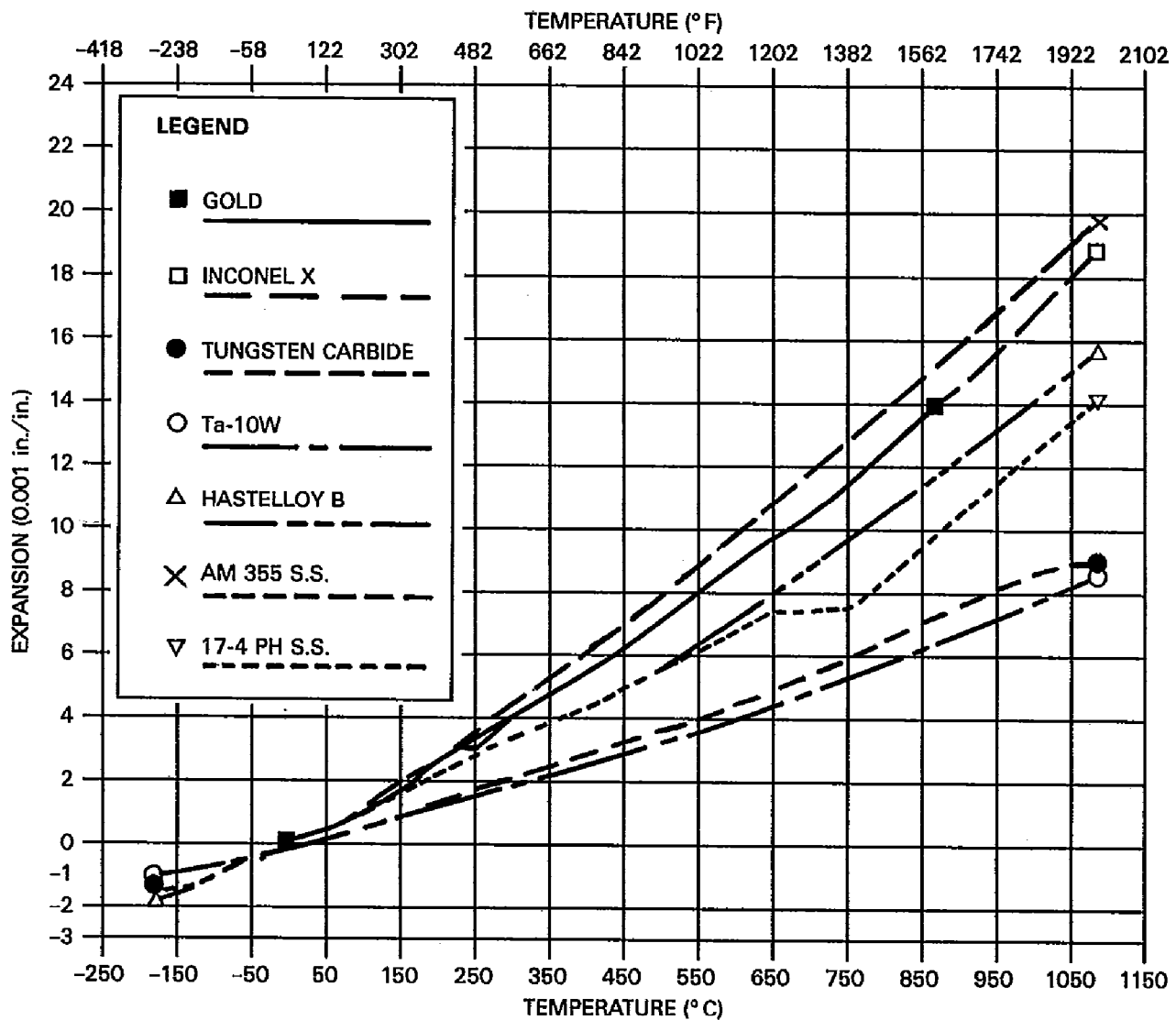
THERMAL EXPANSION VS. TEMPERATURE

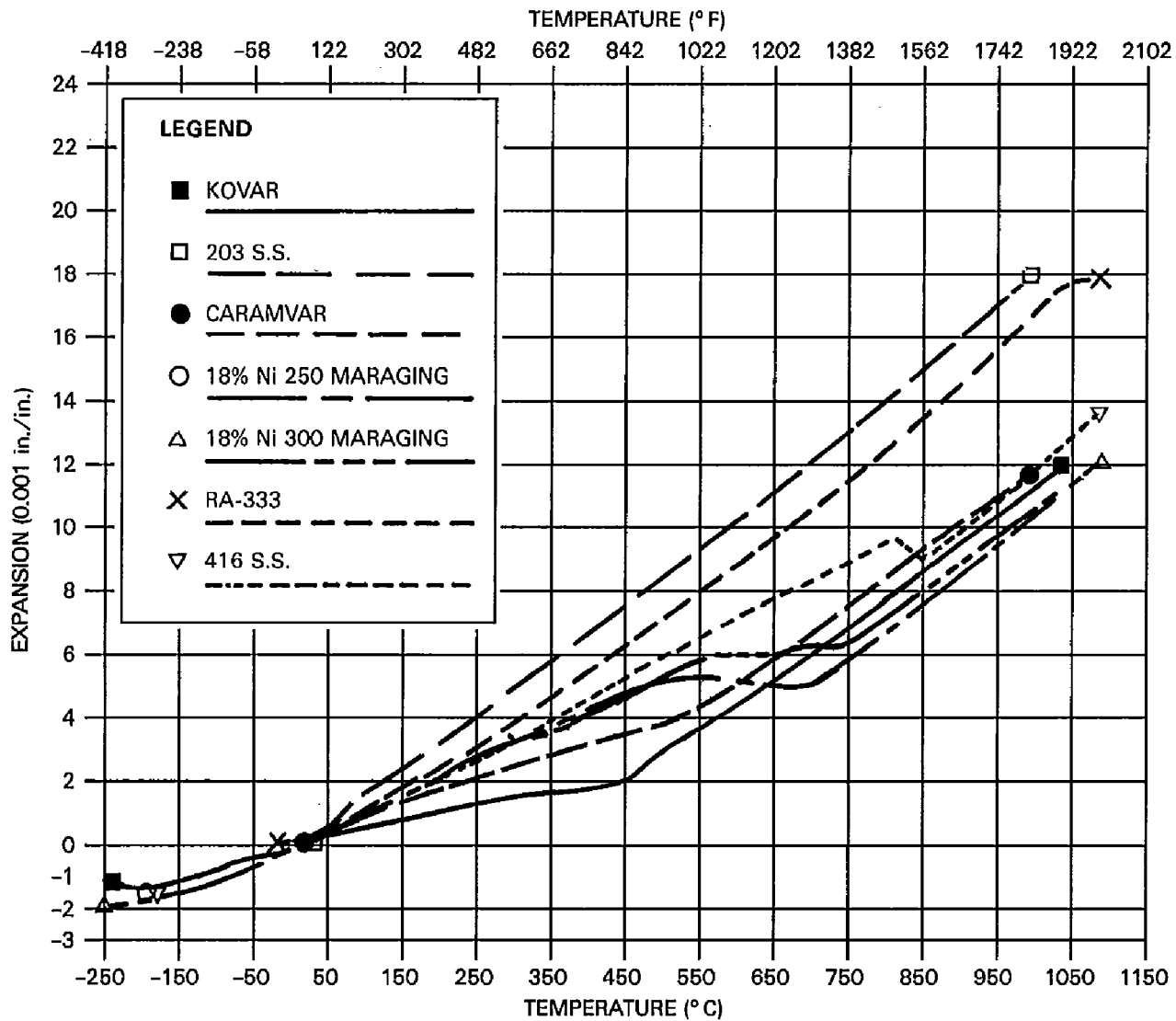


THERMAL EXPANSION VS. TEMPERATURE



THERMAL EXPANSION VS. TEMPERATURE



THERMAL EXPANSION VS. TEMPERATURE

THERMAL EXPANSION VS. TEMPERATURE

