



| Recommended Temperature Ranges for Use* |                | Alloy Grade   |
|---|----------------|---|
| °F                                      | °C             |   |
| -450° to -250°                          | -272° to -157° | Inco 718<br>A286  |
| -300° to -100°                          | -184° to -73°  | Austenitic stainless steels   |
| -100° to -30°                           | -73° to -34°   | AISI 4340<br>AISI 8740  |
| -30° to 32°                             | -34° to 0°     | AISI 4037<br>AISI 4140  |
| 32° to 450°                             | 0° to 232°     | Medium carbon steels<br>Low alloy steels  |
| 450° to 900°                            | 232° to 482°   | Stainless steels<br>Chromium-molybdenum alloy steels (AISI 4100, 8600, 8700 series)<br>ASTM A193 B16<br>H11 |
| 900° to 1200°                           | 482° to 650°   | A286<br>Inco 718<br>Many super alloys   |
| Above 1200°                             | Above 650°     | A refractory alloy  |

Note: These are the most commonly used fastener alloys; many others are available that will meet very specialized applications. The alloy selected for a fastener application must not only maintain strength, etc., at the temperatures it will be heated to, it must also resist the environment in which it is used. Thus, corrosion resistance of the metal selected must be considered.

**\*(taken from IFI Fastener Standards, 6th Edition and ASM Metals Handbook, Vol. 1, 10th Edition)**

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