

## 6. Heat Treatment

6.1 Ferritic steels shall be properly heat treated as best suits the high-temperature characteristics of each grade. Immediately after rolling or forging, the bolting material shall be allowed to cool to a temperature below the cooling transformation range. The materials which are to be furnished in the liquid-quenched condition shall then be uniformly reheated to the proper temperature to refine the grain (a group thus reheated being known as a *quenching charge*) and quenched in a liquid medium under substantially uniform conditions for each quenching charge. Use of water quenching is prohibited for any ferritic grade when heat treatment is part of the fastener manufacturing process. This prohibition does not apply to heat treated bar or to fasteners machined therefrom. Material Grade B16 shall be heated to a temperature range from 1700 to 1750°F [925 to 954°C] and oil quenched. The materials that are to be furnished in the normalized or air-quenched condition shall be reheated to the proper temperature to refine the grain and cooled uniformly in air to a temperature below the transformation temperature range. The material, whether liquid-quenched or normalized, shall then be uniformly reheated for tempering. The minimum tempering temperature shall be as specified in Table 2 and Table 3.