

SPRING STEELS

This group includes the type of structural steels used to fabricate spiral springs, stabilizer bars, collets etc. Spring steels are hardened and tempered at a temperature around 450° C. They can be supplied natural or (preferably) annealed. When selecting the steel, it is important to establish an appropriate hardening penetration for the various dimensions of use that guarantees high level limits of elasticity and therefore maximum resistance to stress in service. It is important therefore not to use the various grades for thicknesses indicated in the tables. These steels are usually hardened in oil. The 55Si7 and 60SiCr8 types are generally used for dimensions up to approx 30mm. For higher dimensions and more severe uses, the 50CrV4 and 52SiCrNi5 steels are used; the second characterized by "high hardenability" is recommended for harsher uses also due to its high elastic limit and excellent wear strength. It should be remembered that all spring steels, if used in small parts (≤ 15 mm and ≤ 30 mm according to type), are particularly suitable for austempering. In this case, the impact strength values at the same level of strength are higher than those obtained with the conventional treatment.