Improve the spring quality measures

(1) deformation heat treatment deformation of steel - will be strengthened both combined with heat treatment, in order to further improve the strength and toughness of steel. Thermomechanical treatment is high, low temperature, divided in. High temperature thermomechanical treatment is immediate quenching deformation in the austenite state, also can be combined with forging or rolling, namely hot molding immediately after quenching. Deformation heat treatment has been used in the production of automobile leaf spring.
(2) the isothermal quenching spring for smaller diameter or through enough spring can be made of isothermal quenching, it not only can reduce the deformation, but also can improve the strength and toughness, once again in the best tempering after isothermal quenching can increase the elastic limit, the same isothermal quenching temperature and tempering temperature.
(3) the spring relaxation - spring work long time under the action of external force, due to the stress relaxation results will produce micro permanent (plastic) deformation, especially spring high temperature work, under high temperature stress relaxation phenomenon is more serious, so that the spring of lower accuracy, which is not allowed to from the general precision spring. Therefore, this kind of spring in the quenching and tempering treatment should be carried out after the relaxation of spring -- pre load, the deformation amount exceeds the spring work may have. And then heated at higher temperature under the conditions of 20C insulation 8-24h.