Indian Standards IS 4454 (Part 4): 2001 Steel wires for mechanical springs, Part 4 Stainless Steel Wire

The stainless steel wires undergo a hard cold drawing process, where the steel is drawn through a die to decrease its diameter while improving its strength, hardness, and dimensional precision.

Stainless steel wire is designed for applications in springs and spring components subjected to corrosive environments and moderately elevated temperatures in sectors such as automotive, medical equipment, and general engineering. Austenitic stainless steel grades are included in this standard which has chromium content over 12%.

Good Quality Parameter: Consumers expect superior quality requirements for stainless steel wires used in mechanical springs to guarantee reliability, durability, and optimal performance in mechanical spring applications. The following are key quality parameters:

i) **Tensile Strength**
ii) **Wrapping Test**
iii) **Reverse Torsion Test**
iv) **Coiling Test**

IS 4454 (Part 4) specifies three grades that are resistant to normal atmospheric conditions, as well as steam and various corrosive media. These grades are capable of withstanding elevated temperatures not exceeding 300°C.

The takeaway is that IS 4454 (Part 4): 2001 assists manufacturers and users in guaranteeing the reliable and consistent performance of hard cold drawn unalloyed stainless steel wires utilized in mechanical springs for demanding applications.