Heat treatment of common defect prevention and elimination technology

Defects defects cause name elimination and prevention measures
Mechanical properties of unqualified annealing state delta 5 is low, quenching and aging treatment after the strength and elongation of unqualified. The annealing temperature is low or the holding time is insufficient, or cooling too fast; quenching temperature is low or the holding time is not enough, or the cooling rate is too slow (quenching medium high temperature); incomplete artificial aging and completely artificial aging temperature is high, or the holding time is too long, the deviation of chemical alloying. Re annealing, increasing temperature or time; improve the quenching temperature and holding time, reduce the quenching medium such as quenching temperature; again, is to adjust the subsequent aging temperature and time; such as composition deviation, according to deviation element, specific deviation, change or adjustment is repeated heat treatment parameters. Deformation and warpage after heat treatment, size and shape changes reflected in the mechanical processing or after the casting. The heating rate or the quenching cooling rate is too fast (Tai Jilie); the quenching temperature is too high; design structure of the cast is not reasonable (such as two connecting wall thickness difference is too large, the frame structure of the reinforcing ribs is too thin or too small; hardening workpiece loading method and improper improper water direction. To reduce the heating speed, improve the quenching medium temperature, or into the quenching medium cooling slower in order to prevent the generation of residual stress in thick wall alloy; thin-walled parts or coating or asbestos fiber insulation materials coated with thin wall parts; according to the casting structure, configuration choice of reasonable water direction or use special anti deformation fixture; deformation is little part, it can be immediately corrected after the quenching.