At the same time than containing bainite easily for surface hardening treatment

The so-called quenching is the rate of material from the austenite region temperature very fast when the temperature is decreased to prevent the formation of pearlite or sorbite, since the austenite cooling to the Ms temperature because of the time too short carbon diffusion does not occur, the basic direct transforms into martensite, the organization is very strong but also very brittle, can temper to become soft, in order to improve the toughness, therefore after different temperature back, combination can get different hardness, strength and toughness. And the so-called isothermal quenching or hot melt quenching, i.e. by quenching in salt bath and metal bath, resulting in the mesophase or bainite organization in cast iron, often performing quenching and tempering is spheroidal graphite cast iron, gray cast iron is on, no special significance, the most in to improve abrasion strength of gray cast iron when considering a quenching treatment, in fact, this result can be reached by surface treatment. The spheroidal graphite cast iron, after treatment after quenching and tempering, can get the same casting or normalization of the intensity of treatment, but has higher yield strength, the results obtained greater flexibility, especially get high toughness, because after quenching, tempering, base containing higher carbon.
If the cooling in the air, non hardening and low alloy cast iron ability is not high enough, so it must be hardened in some liquid, in order to avoid quenching occurs when hot crack, quenching liquid used is the best oil or a suspension and should avoid the use of water quenching cast will be formed within the temperature gradient. At the same time, because of the time difference, the volume change with the martensite formation rate caused by internal stress is not the same, and the interior of the casting increases, it is easy to form the hot tearing formation stress or high in castings, in this case, it should be between the oil bath temperature increased up to 50~100 DEG C, thereby can prevent the formation of stress, the bigger difference of wall thickness of castings, especially to carefully the thick part, first of all to quenching liquid, so it can reduce the stress of thin portion by heat, oil in the oil, must be stirring, or it will not stop the flow, or casting in the quenching liquid in the sloshing.