Effect of forging on Microstructure and properties of the final heat treatment o

Allotropic transformation materials in the heating and cooling process, such as structural steel and martensitic stainless steel, due to improper forging process of some tissue defects or raw materials left some defects, has a great influence on the heat treatment after forging quality. Is illustrated as follows:
1) tissue defects in some of the forging, can be improved in heat treatment after forging, microstructure and properties can still be obtained satisfactory final heat treatment after forging. For example, in structural steel forgings for general overheating in coarse grained and widmanstatten structure, hypereutectoid steel and bearing steel due to improper cooling slightly reticulate carbide.
2) tissue defects some forgings, eliminate the use of difficult to normal heat treatment, with high temperature normalizing, normalizing and low temperature, high temperature decomposition of repeated measures to improve diffusion annealing. For example, coarse crystal and 9Cr18 stainless steel twin carbide.
3) tissue defects some forgings, general heat treatment process can not be eliminated, the result makes the final heat treatment after forging performance decline, not even qualified. For example, serious stone fracture and fracture of facet, burnt, stainless steel in the ferrite band, ledebrite high alloy tool steel in the carbide network and belt etc..
4) tissue defects some forgings, in the final heat treatment will be further development, even cause cracking. For example, coarse grain structure of alloy structure steel forgings, if the heat treatment after forging has not improved, in Carbonitriding and quenching after often cause coarse and properties of martensite unqualified; coarse banded carbides in high speed steel, quenching is often caused by cracking.