

# CYANIDING

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# INTRODUCTION

1. Hardening the surface of steel with carbon and nitrogen obtained from a bath of liquid cyanide solution.
2. Steel is heated in molten cyanide at about 850 C followed by quenching.
3. Carbon and nitrogen are absorbed by steel.
4. It is a process of producing hard surface on lowcarbon or medium carbon steels by immersing the steel in amolten salt bath containing cyanide maintained at 800 to 900 degree celcius and then quenching the steel in water or oil.
5. The hardness produced by this treatment is due to the presence of components of nitrogen as well as carbon in the surface layer.

6. A bath containing one-third each of sodium chloride, sodium carbonate and sodium cyanide is used for the cyaniding treatment. Under average conditions, a depth of case of 0.125mm will be produced in about 15 minutes at 850 degree celcius.
7. But special salt composition are available which enables much thicker cases to be obtained, if required.
8. Cyaniding is used chiefly for cases not exceeding about 0.8mm in thickness.
9. One advantages of tis process is that the bright finish of machined part can, if required, be maintained;
10. Second the distortion is more easily avoided.
11. Third, is that change in hardness from the case of core is more gradual and flaking of the core is eliminated.



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