

## [NPCS Launches Book On "Heat Treatment Of Automobiles"](#)

*Nothing can be manufactured without heat treatment including automobiles in which metals are heated and cooled in a controlled manner it improve its performance, durability, properties etc. This books covers everything which is necessary to perform heat treatment.*

Online PR News â€“ 28-February-2014â€“ Heat Treatment is necessary for all kind of heavy equipments including spacecrafts, aircrafts, automobiles, ships, heavy machinery etc. It can do wonders with the metal like improving its corrosion resistance that would otherwise corrode, improve its strength, harden the soft metals etc.

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Iron & Steel constitute the major portion of heat treated metals, but with the modernization of the industry, various alloys of metals like nickel, copper, magnesium, titanium or aluminium are also heat treated for various applications

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Generally heat treatment involves three basic steps:-

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- 1) Depending on the application, heating the given metal to a specified temperature
- 2) Holding at that temperature for the appropriate amount of time.
- 3) Cooling the metal as per the methods.

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All these steps are varied depending on the metal under heat treatment and its application

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Heat Treatment Methods

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There are various methods of heat treatment. Some of them are listed below

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- 1) Nitriding
- 2) Vacuum Heat Treat
- 3) Annealing
- 4) Diffusion Carburize
- 5) Carbonitride
- 6) Stress Relieve
- 7) Quench & Temper

- 8) Normalizing
- 9) The Electric Induction Process
- 10) Carburize

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There are various automotive parts that benefit from heat treatment. Some of them are listed below:-

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- 1) Bearings (bearing race, langed inner/outer bearings, pins etc)
- 2) Joints (CV joints, tulips male/female etc)
- 3) Shafts (rear & front axel etc)
- 4) Assembly ( shrink fitting etc)
- 5) Gears (ring gears, helical gears etc)
- 6) Brakes (brake shoes etc)

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This book is highly recommended for entrepreneurs who want to enter into this line of business, librarians, consultancy firms, researchers, professionals etc.

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Some of the topics covered in this book are:-

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- 1) Introduction
- 2) Materials Used in Autovehicles
- 3) Bake Hardening Steel Sheets
- 4) High Tensile Strength Steel Sheets
- 5) Corrosion Resistant Coated Steel Sheets
- 6) Constructional Steels
- 7) Case Hardening Steels
- 8) Heat Resistant Steels
- 9) Powder Metallurgy Products
- 10) Non-ferrous Alloy Powder Metallurgy Products
- 11) Copper Alloys
- 12) Aluminium Alloys
- 13) Magnesium Alloys
- 14) Titanium Alloys
- 15) Composite Materials
- 16) Plastics and Rubber
- 17) Glass and Ceramics
- 18) Heat Treatment
- 19) Types of Heat Treatment
- 20) Processing Technology in Heat Treatment
- 21) Carburizing and Carbonitriding
- 22) Nitro-carburizing
- 23) Induction Hardening
- 24) Powder Metallurgy and Sintering
- 25) Key Issue in Heat Treatment: Atmosphere Control

- 26) Carbon Potential Control
- 27) Gas Carburizing Processes
- 28) Reduced Pressure Carburizing (Vacuum Carburizing)
- 29) High Pressure Gas Quenching
- 30) Carbonitriding
- 31) Low Temperature Nitrocarburizing and Oxy-nitro-carburizing
- 32) Surface Modification and Hybrid Heat Treatment
- 33) Solid Lubricant Coatings
- 34) Emerging Technologies in Materials, Heat Treatment and Surface Engineering
- 35) Materials
- 36) Carburizing and Carbonitriding
- 37) New Nitriding Methods for Aluminium
- 38) Nitriding of Stainless and Maraging Steels
- 39) Furnaces for Heat Treatment of Fasteners and Automobile Parts
- 40) Specifications of the Line
- 41) Washing Machine
- 42) Hardening Furnace
- 43) Quenching Tank
- 44) Continuous Hot Blast Tempering Furnace
- 45) Double Layer Dyeing Tank
- 46) Capacity of the Main Furnace
- 47) Crucible Type Annealing Furnaces
- 48) Application
- 49) Features
- 50) Specifications of the Bell Type Furnace
- 51) Features
- 52) Capacity of the Quenching Tank
- 53) Capacity of the Continuous Hot Blast Tempering Furnace
- 54) Capacity of the Dyeing Tank etc

For more information, please visit the following link <http://bit.ly/1ajlMY3>

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or, you can also visit <http://www.niir.org>

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