

Handbook on Steel Bars, Wires, Tubes, Pipes, S.S. Sheets Production with Ferrous Metal Casting & Processing

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Ferrous materials have made a major contribution to the development of modern technology; they span a tremendous range of properties and applications. Reflecting the industrial practices, the information provided here offers easy access to reliable processes involved in the manufacturing of Steel products like Steel Bars, Wires, Tubes, Pipes, Sheets etc that proves to be the backbone of construction and automobile industries booming worldwide.

The work closes the gap in the treatment of steel and cast iron. Each chapter takes into account the gradual transitions between the two types of ferrous materials. It demonstrates that ferrous metal and steel are versatile and customizable materials which will continue to play a key role in the future and also covers the operations performed on ferrous metals for converting them into a commodity.

The book provides a full characterization of steel, including structure, chemical composition, classifications, physical properties, production practices of different steel products, processing of ferrous metals and so on. It will prove to be a layman's guide for the entrepreneurs who are willing to invest in the ventures related to Iron and Steel Industries, as it contains information related to processing of ferrous metals and production practices followed in Steel products manufacturing units. The text discusses the importance and objectives of processes and material used for the production of disposable products. Many examples have been provided to illustrate the concepts discussed.

The topics covered in the book are: Casting of Ferrous Metals, Heat Treatment of Ferrous Metals, Stamping Process of Ferrous Metals, Forming Process of Ferrous Metals, Machining Process of Ferrous Metals, Joining Process of Ferrous Metals, Production of Stainless Steel Wire, Production and Fabrication of Steel Bars, Steel Tube & Pipe, Stainless Steel Sheet and Different Grades of Stainless Steel.

1. CASTING OF FERROUS METALS

Casting Methods

Sand Casting

Shell-mold Casting

Expendable-Pattern Casting (Lost foam Process)

Plaster-Mold Casting

Ceramic Mold Casting

Investment Casting (Lost Wax Process)

Vacuum Casting

Permanent Mold Casting

Die Casting
Centrifugal Casting
Casting Design and Quality
Corners, Angles and Section Thickness
Drafts and Tapers
Shrinkage
Parting Line

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Soaking Stage
Cooling Stage
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Cyaniding
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Spiral Band Progressive Method
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Urethane Stripper
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Piloting
Perforate and Extrude
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Lancing
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Embossing
Projection
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For More Information...

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Cylindrical Grinding

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Centerless Grinding
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Characteristics
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Lubrication
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Classification of Electrodes

Selection of Electrodes

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General

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Tmt Bars

Mild Steel Bars (as per IS: 432, part-I -1982)

Deformed Steel Bars (as per IS: 1786-1985)

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Stainless Steel Bar-Round

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Grade Datasheets

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DC Processes
Low-Frequency Process
High-Frequency Processes
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11. GRADES OF STAINLESS STEEL

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Straight Grades

“L” Grades

“H” Grades

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Type 316

Type 317

Type 317L

Type 317LM
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Type 440
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Type 405
Type 409
Type 434
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Type 442
Type 446
Duplex Grades
Precipitation Hardening Grades
Superalloy Grades

About NIIR

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Our Detailed Project report aims at providing all the critical data required by any entrepreneur vying to venture into Project. While expanding a current business or while venturing into new

business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line.

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