A

A
Coatings designation for Galvannealed steel.

Aging
Changes in steel properties over time, often reducing ductility.

Aluminized
Steel sheet coated with aluminum for corrosion and heat resistance.

Annealing
Heat treatment to soften steel and improve formability.

ASTM
American Society for Testing and Materials, sets steel standards.

B

Bake Hardenable Steel
Cold rolled sheet that gains strength during paint baking.

Band
Basic form of hot rolled coil.

Bend Radius
The minimum radius a sheet can be bent without cracking.

Billet
Semi-finished steel product for further rolling or forging.

Black Plate
Uncoated steel sheet used for tinplate production.

C

Camber
Deviation of a steel edge from a straight line.

Carbon Steel
Steel mainly alloyed with carbon, strong and versatile.

Coating Weight
Amount of protective metal applied, e.g., zinc.

Coil Breaks
Surface creases on coils running transverse to rolling direction.

Cold Rolled
Steel rolled at room temperature for precise thickness and finish.

D

Dead Soft
Steel with very low hardness and high ductility.

Deep Drawing
Process of forming deep cup-shaped parts.

Density
Mass per unit volume, steel = 0.2836 lb/in³.

Ductility
Ability to deform without breaking.

Drawing Steel
Steel grade intended for parts requiring extra ductility.

E

Elasticity
Ability of steel to return to original shape after stress.

Electrogalvanized
Steel coated with zinc using electrolysis.

Elongation
Measure of ductility from tensile test results.

Embossing
Creating raised or recessed designs on steel surfaces.

Edge Wave
Flatness defect where steel edges are longer than center.

F

Flatness
Measure of how flat a steel sheet lies on a surface.

Fluting
Parallel creases when steel is bent or formed.

Forming Steel
Soft grade for bending and shaping.

Fracture
Crack or break in steel under stress.

Full Hard
Cold rolled steel not annealed, very strong but brittle.

G

Galvalume

Steel coated with aluminum-zinc alloy for high corrosion resistance.

Galvanized
Steel coated with zinc to resist corrosion.

Galvannealed
Galvanized steel heat-treated to form zinc-iron alloy coating.

Gauge
Number representing steel thickness.

Grain Structure
Arrangement of crystals in steel affecting properties.

H

Hardness
Resistance of steel to indentation or scratching.

Heat Treatment
Controlled heating/cooling to alter steel properties.

High Strength Low Alloy (HSLA)
Stronger steel with added alloying elements.

Hot Rolled
Steel rolled at high temperatures, thicker and less precise.

Hydrogen Embrittlement
Loss of ductility due to hydrogen absorption.

I

IF Steel
Interstitial-free steel with high ductility for deep drawing.

Impact Testing
Measures resistance to sudden applied loads.

Inclusions
Non-metallic particles trapped in steel during production.

Ingot
Large block of steel cast for further rolling.

Iron
Base metal element in steel. Symbol Fe.

J

JIT
Just-in-time delivery system for steel products.

Jominy Test
Test of hardenability of steel using end-quenching.

K

Killed Steel
Steel fully deoxidized for uniform composition.

Kink
Abrupt bend defect in steel sheet.

Knurling
Rolling process that creates textured patterns on steel.

L

Lamination
Defect from internal separations in steel.

Lead
Element added for machinability. Symbol Pb.

Leveling
Flattening steel with rollers.

Lock Forming Quality
Grade suitable for HVAC duct forming.

Long Terne
Steel sheet coated with lead-tin alloy.

M

Manganese
Alloying element that improves strength and toughness.

Martensite
Hard microstructure formed by rapid cooling.

Matte Finish
Dull surface finish often for painting.

Mechanical Properties
Tensile strength, yield strength, ductility, hardness.

Mild Steel
Low-carbon steel, ductile and weldable.

N

Necking

Local reduction in cross-section when stretched.

Niobium
Alloying element for HSLA steels. Symbol Nb.

Normalizing
Heat treatment to refine grain structure.

Notch Toughness
Steel’s ability to resist fracture at a flaw.

O

OD
Outside diameter of coil or pipe.

Oil Can Effect
Distortion or waviness in steel sheets.

Oiling
Applying oil to protect steel from rusting.

Orange Peel
Surface defect resembling citrus skin.

Overpickled
Steel exposed too long to acid, leaving roughness.

P

Passivation
Chemical treatment to delay white rust on galvanized steel.

Phosphorus
Element that strengthens steel but reduces ductility.

Pickling
Acid cleaning to remove scale from hot rolled steel.

Pipe
Cylindrical hollow steel product.

Pitting
Small surface corrosion pits on steel.

Q

Quenching
Rapid cooling to harden steel.

Quality
Suitability of steel for intended use.

Quarter Hard
Cold rolled steel with moderate hardness.

R

Reduction
Decrease in thickness from rolling.

Reel Breaks
Creases formed during coiling/uncoiling.

Residuals
Unintended leftover elements in steel.

Rimmed Steel
Low-carbon steel with good surface finish.

Rockwell Hardness
Standard test for hardness.

Rust
Corrosion from exposure to moisture and air.

S

SAE
Society of Automotive Engineers, sets steel standards.

Scale
Oxide layer on hot rolled steel.

Secondary Steel
Steel downgraded from prime quality.

Seam
Surface crack defect.

Shearing
Cutting steel with a blade.

Sheet Steel
Flat rolled steel under 1/4 inch thick.

Slitting
Cutting coils into narrower widths.

T

Temper
Steel condition defined by hardness or softness.

Temper Passing

Light rolling to improve flatness.

Tensile Strength
Max stress before steel breaks.

Tolerance
Allowed dimensional variation.

Ton
Weight unit: 2,000 lbs (short ton), 2,204 lbs (metric ton).

Tube
Hollow steel section used structurally.

U

Ultimate Tensile Strength
Maximum load steel can carry before fracture.

Ultralow Carbon Steel
Steel with extremely low carbon for deep drawing.

Uniform Elongation
Amount steel stretches evenly before necking.

Uncoated Steel
Steel without protective coatings.

V

Vacuum Degassing
Steel refining process to remove gases for cleaner steel.

Vanadium
Alloy element improving strength and toughness.

Void
Internal cavity defect in steel.

W

Weld
Joining steel with heat or pressure.

Weldability
Ability of steel to be welded successfully.

White Rust
Corrosion on galvanized steel surfaces.

Work Hardening
Steel strengthening during deformation.

Wrought Steel
Steel mechanically worked into final form.

X

X-Coating
Shorthand for steel with no protective coating.

X-Ray Testing
Non-destructive method for internal defect detection.

Y

Yield
Usable steel from production vs total input.

Yield Strength
Stress at which steel deforms permanently.

Young’s Modulus
Measure of elasticity of steel.

Z

Zinc
Protective coating metal applied to steel.

Zinc Bath
Molten zinc bath used for galvanizing.

Zirconium
Alloy element that improves corrosion resistance.