New Tech Machinery
A MAZZELLA COMPANY

METAL ROOFING & ROLLFORMING GLOSSARY

DEFINITIONS. ACCESSORIES. PARTS. PROBLEMS.

ROLLFORMING DEFINITIONS

CONTROLLER
Manual or computer-operated device that makes the machine function and follow the input measurements and preferences.

DRIVE ROLLERS
What moves the metal through the machine; typically made of metal or polyurethane.

FORMING ROLLERS
Forming rollers and forming stations are the individual components the metal passes through to bend or form a desired shape.

FORMING STATIONS
The spots at which the metal is bent or manipulated by a pair of forming rollers.

HEMMING
Process where material is folded back onto itself.

HYDRAULIC TANKS
They aren't standard on all rollforming machines, but they are commonly added to make the machine faster for higher production or to automate the shears.

MACHINIST
A worker who fabricates, assembles, or repairs machinery; a craftsman skilled in the use of machine tools; one who operates a machine.

METAL COIL
Metal sheets that have been wound into a large roll. Coils are the most efficient way to transport or store sheet metal.

METAL ROLLFORMING
The proess of feeding metal, finished, coiled, flat, or otherwise, through a series of rollers where each roller station further manipulates the piece of metal into the desired shape.

METAL SHEET
Metal formed into thin sheets by a rolling process.

NOTCHING
Cutting different shapes out of sheet metal from the edge of a blank strip to prepare a panel for installation.

PORTABLE ROLLFORMING MACHINE
Takes everything a metal rollformer does but in a smaller size so it can be transported easily. A portable rollformer can be powered by gas or electricity, and often comes with an attached or stand-alone decoiler for the metal and run-out tables for finished panels.

PORTABLE ROOF PANEL MACHINE
A condensed, transportable piece of machining equipment used to rollform metal sheets/coils into metal roof or wall panels.

PORTABLE SEAMLESS GUTTER MACHINE
A condensed, transportable machine used to rollform seamless gutters (from metal sheets/coils) directly at a job site.

POST-CUT SHEAR
Metal part is formed first in the forming stations and cut afterward.

POWER SOURCE
How the rollformer is powered and able to run; usually electric or gas.

PRE-CUT SHEAR
Metal is cut at the entry end of the machine before it goes through the forming stations.

RUN-OUT TABLE
An adjustable height platform used to support and keep roofing panels level as they exit the rollforming machine. Typically supplied in 10' (3m) lengths.

SHEAR OR GUILLOTINE
Cuts the metal part or component at a specific length.

SLITTING
Cutting a sheet of metal into narrower strips.

TAPERING
Making a panel narrower at one end.

METAL ROOFING DEFINITIONS

BATTEN PANEL
Two legs of the panels are rollformed and butted up next to each other, a metal cap goes over the legs to create a seam, and either snaps on or is mechanically seamed into place. The two common types of parts that can go over the legs are tee seam (mechanically seamed into place, resembling a "T") and snap cap (snap over the panel legs without any mechanical seaming).

COOL METAL ROOFING
Painted or coated metal panels that reflect the sun's energy to dissipate heat.

EPDM ROOFING
Ethylene propylene diene monomer; a synthetic rubber used as roofing material for slow slope or flat roofing applications; common in commercial structures.

EXPOSED FASTENER LAP SEAM
The overlapping ends of the lap panels are fastened down to the deck from the top of the panel.

EXPOSED FASTENER METAL ROOFING
A roofing system where the panels are fastened to the structure through the face of the metal and directly into the roof deck or framing below, and are left visible on top of the panels.

FLANGE
A projecting rim or edge of a part, usually narrow and of approximately constant width for stiffening or fastening.

GALVALUME®
A metal coating that begins as a carbon steel base that is continuously hot-dipped with aluminum and zinc alloys until it reaches a coating consisting of 55% aluminum, 43.4% zinc and 1.6% silicone.

GAUGE
Measurement for the thickness of a metal. Smaller gauge numbers indicate thicker metal.

MECHANICAL LOCK
Panels that have been rollformed with specific edges that line up with each other. Once the panels are engaged, a hand or mechanical seamer is used to bend the edges and lock the panels together. Types of mechanical lock panels include single lock (one fold of the seam at 90 degrees) and double lock (two folds of the seam, resembling a paper clip at 180 degrees).

METAL COILS/SHEETS
Metal roofing starts out as metal coils or sheets, which are then rolled out, cut, and rollformed into panels for installation. Metal coils are long, continuous metal rolls that have been treated or coated with paint.

METAL PANEL SEAM TYPES
The shape and way two or more metal panels are seamed together vertically, including these types: snap-lock, mechanical lock, batten panel, nail/fastener flange, and exposed fastener lap seam.

METAL ROOFING
A roofing system made from metal panels or tiles characterized by its high wind/storm resistance, impermeability, and longevity.

NAIL/FASTENER FLANGE
Similar to a snap-lock panel system, but it's directly fastened down to the deck of the roof through the male leg of the metal panel instead of using a clip to attach the panel to the deck. Once the fasteners are in place, the female leg of the panel snaps over the entirety of the male leg, which hides the fastener head.

PANEL PROFILE
The shape and way two or more panels are seamed together.

PANELS
The rollformed pieces of metal coil that have been shaped into the desired profile/ribbing structure and are ready to be seamed together to form a roof.

PROFILE
The shape metal panels are formed into; they also determine how the panels fit and connect together.

RIB ROLLERS
The "patterns" or striations rollformed into a metal roofing panel between the seams. Common kinds include: **flat** (no indents between the seams), **ribbed** (some shape or indentation between seams), **striated** (small, consistent indentation lines in the pane), **corrugated** (larger, constant waving of the metal panel), and **clip relief** (stiffening rib adjacent to the seam that allows the space for a clip).

ROLLFORMING EQUIPMENT
The machinery, stationary or portable equipment, that forms and shapes the coil or sheets into individual panels.

SEAM
The side rib at which two metal panels come together and are connected.

SNAP-LOCK
Panels that have been carefully rollformed with specifically shaped edges, male and female leg, that snap together, thus not requiring hand or mechanical seam during installation.

STANDING SEAM METAL ROOFING
A concealed fastener metal roof system featuring a raised vertical seam and a broad, flat area between the two panel legs.

INSTALLATION ACCESSORIES FOR METAL ROOFING

ATTACHMENT CLAMPS
Clamps are small metal parts that are tightened and attached to the top of the metal roof at its standing seam. These clamps have screws at the top used to attach extra roofing items such as a snow retention system, solar panels, satellite dishes, signs, AC units, etc.

BUTYL TAPE
Used in a similar fashion as sealant to seal cracks and seams on metal roofs, but it's in the form of one or two-sided tape and seals by compression. Also used for trimming purposes.

CLIPS
A concealed anchor that attaches a metal panel to the substrate (roof deck or other material beneath the metal panels) with the use of fasteners. Clips are sometimes referred to as cleats as well.

FASTENERS
Any mechanical securement device used to attach the metal roof to the roof deck during installation.

PIPE BOOT
The cone-like fitting that is installed around an exhaust pipe that exits through the roof.

RIVETS
Similar to fasteners but require a special rivet gun to install.

SEALANT
Used during installation to seal out water, dirt, wind, and other substances that can get into small spaces, making the roof as weather-tight as possible. Typically made of silicone and polyurethane.

UNDERLAYMENT
The layer of material that goes underneath the metal panels and protects them from water and moisture, ice, high temperature and vapors. Synthetic and felt are the two most popular underlayments used for metal roofs.

PARTS OF A ROOF

CRICKET
A peaked saddle construction installed between a chimney and the roof surface to help prevent accumulation of snow and water.

CURB
An accessory used to mount additions (AC units, fans, signs, etc.) to provide a level resting structure on a sloped roof.

DECK
A structural component of the roof of a building; the material between the structural components (trusses, joists, purlins, etc.) and the roofing material.

DRIP EDGE
A long piece of metal installed on a roof to keep water away from the fascia and running into the gutter.

EAVE
The projecting edge of a roof that extends beyond the supporting wall.

FASCIA
A vertical or steeply sloped roof or trim located at the perimeter of a building.

FLASHING
Components used to direct water away from critical areas of the roof wherever the roof plane meets a vertical surface, like a wall or dormer.

GABLE
The triangular section of a wall between the edges of a sloping roof. The trim occupying this area of the roof is typically called “gable trim” or “rake trim.”

HEM
The edge created by folding metal back on itself.

HIP
The inclined external angle formed by the intersection of two sloping roof panels.

PITCH
The slope of a roof, measured by dividing the roof rise by its run.

RIDGE
The highest point on the roof, represented by a horizontal line where two roof areas intersect, running the length of the area.

SEAM
A joint formed by joining two separate sections of material.

SOFFIT
The underside of any exterior overhanging section of a roof eave.

SUBSTRATE
The surface upon which the roofing or waterproofing membrane is applied.

VALLEY
The internal angle formed by the intersection of two sloping roof planes.

PROBLEMS WITH METAL ROOFING & ROLLFORMING METAL COILS / SHEETS

CAMBER
Coil that has a stretched edge and curves slightly from side to side.

CHALKING
The whitish residue that can become visible on a painted or coated metal surface over time due to degradation of an ingredient in paints, coatings, or other materials.

FADING
The color change in painted metal roofs or walls caused by the breaking down of pigment when substances (water, pollution, chemicals, etc.) in the atmosphere and specific environments react with the pigment.

OIL CANNING
The perceived waviness of a metal panel and is an inherent characteristic of light-gauge, cold-formed metal products. Oil canning can occur with nearly any type of metal material used in construction.

PANEL CURVATURE
What happens when panels don’t come out of the machine in a straight line. There are two types of panel curvature: **uphill** (the ends of the panel are coming up off the deck while the middle of the panel is touching the deck) and **downhill** (the center of the panel is coming up of the deck while the ends touch the deck).

PANEL MARKINGS
Marks on the panel that occur during the rollforming process. These may take the form of long streaks or imperfect spots on top or bottom of panels, and are usually caused by trapped dirt or debris in the forming or drive rollers, film on the metal sheet, coil catching a roller or getting stuck in the machine, pieces of plastic caught in the machine, or the metal scraping against the exit or entry shear dies.

SHEAR MISALIGNMENT
This happens when the shear is not accurately cutting panels, which could mean the Entry/Exit Shear Dies are misaligned or the shear blades aren’t appropriately positioned according to the profile type.

If you have any additional questions or want to schedule a consultation, feel free to contact us at **1.800-574.1717** or **info@newtechmachinery.com** to speak to one of our knowledgeable and helpful rollforming specialists!