

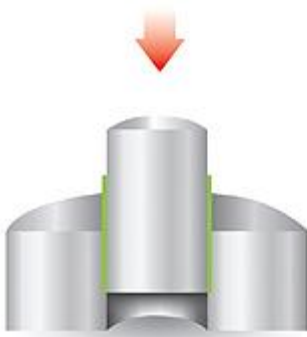


AGS-TECH Inc., Tel: 505-550-6501 and 505-565-5102, Fax: 505-814-5778,

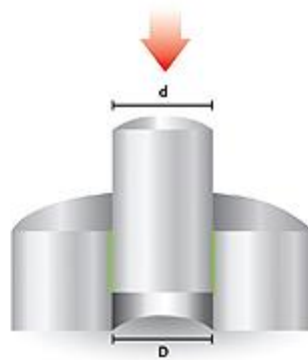
Email: sales@agstech.net, Web: <http://www.agstech.net>

FASTENING PROCESSES

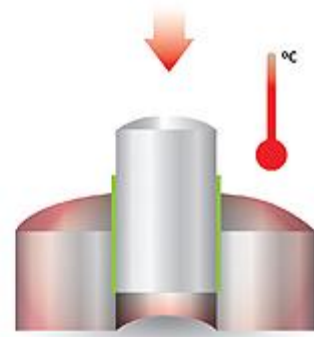
INTEGRAL JOINTS



Bonded Slip Fit



Bonded Press Fit



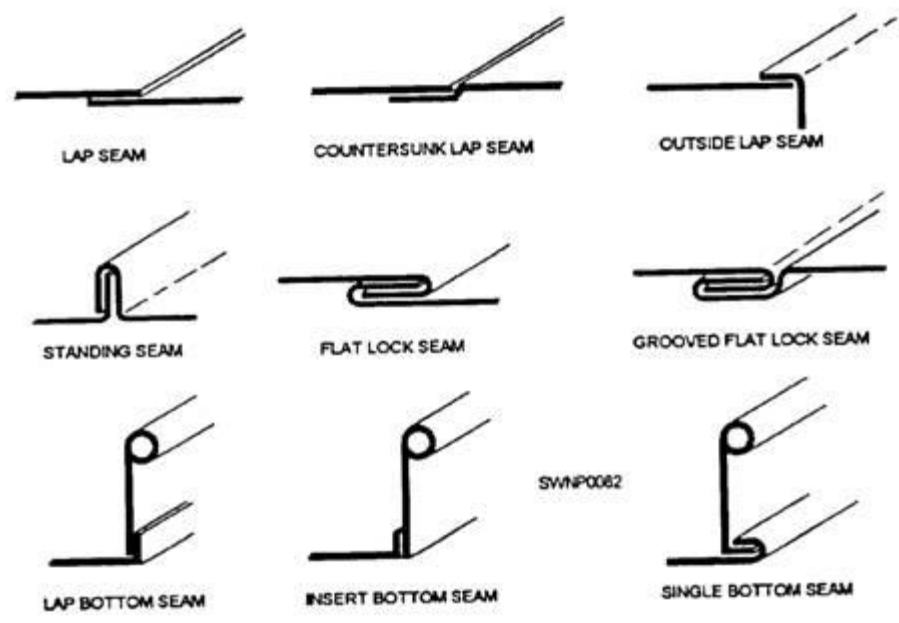
Bonded Shrink Fit

Snap Fits





Seams



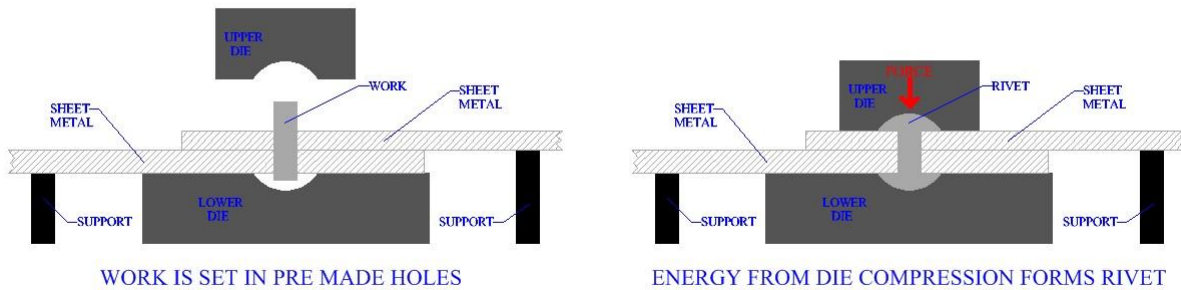
Crimping



FASTENERS

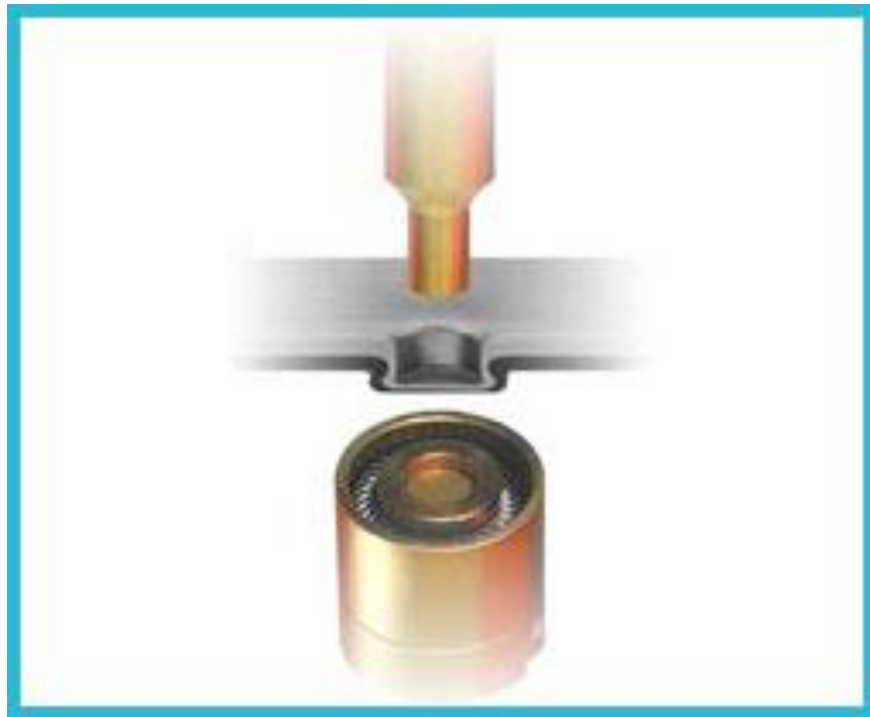
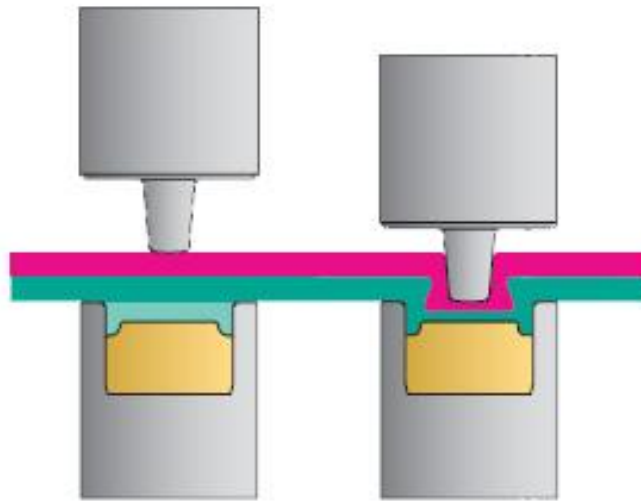
Riveting

RIVETING OF SHEET METAL





Clinching





Clinching Machine

Pinning



Dowel Pins



Dowel Pins in Use

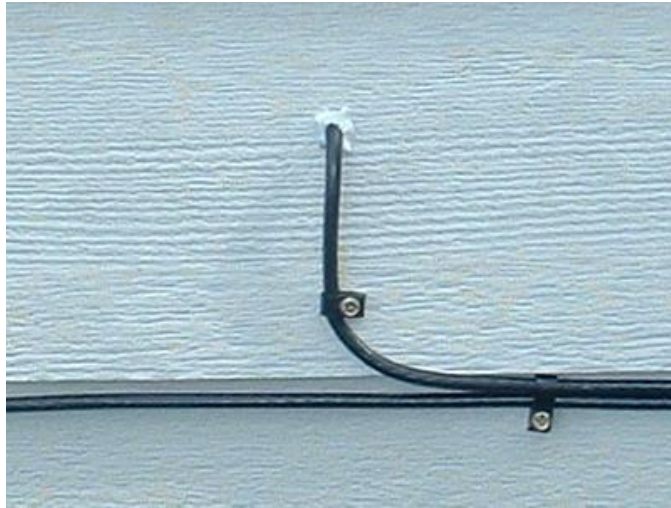


Cotter Pin



Clevis Pin

Stapling



Fastener Categories



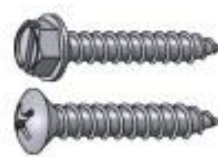
Wood Screws
Screws with a smooth shank and tapered point for use in wood. Abbreviated WS.



Machine Screws
Screws with threads for use with a nut or tapped hole. Abbreviated MS.



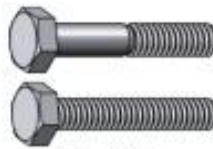
Thread Cutting Machine Screws
Machine screws with a thread cutting (self tapping) point.



Sheet Metal Screws
Fully threaded screws with a point for use in sheet metal. Abbreviated SMS.



Self Drilling SMS
A sheet metal screw with a self drilling point.



Hex Bolts
Bolts with a hexagonal head with threads for use with a nut or tapped hole. Abbreviated HHMB or HXBT.



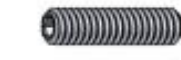
Carriage Bolts
Bolts with a smooth rounded head that has a small square section underneath.



Lag Bolts
Bolts with a wood thread and pointed tip. Abbreviated Lag.



Socket Screws
Socket screws, also known as Allen Head, are fastened with a hex Allen wrench.



Set Screws
Machine screws with no head for screwing all the way in to threaded holes.



Eye Bolts
A bolt with a circular ring on the head end. Used for attaching a rope or chain.



Eye Lags
Similar to an eye bolt but with wood threads instead of machine thread.



J-Bolts
J shaped bolts are used for tie-downs or as an open eye bolt.



U-Bolts
Bolts in U shape for attaching to pipe or other round surfaces. Also available with a square bend.



Shoulder Bolts
Shoulder bolts (also known as stripper bolts) are used to create a pivot point.



Elevator Bolts
Elevator bolts are often used in conveyor systems. They have a large, flat head.

Fastener Categories *(continued)*



Sex Bolts

Sex bolts (a.k.a. barrel nuts or Chicago bolts) have a female thread and are used for through bolting applications where a head is desired on both sides of the joint.



Mating Screws

Mating screws have a shoulder that matches the diameter of the sex bolts they are used with.



Hanger Bolts

Hanger bolts have wood thread on one end and machine thread on the other end.

Head Styles



Flat

A countersunk head with a flat top.
Abbreviated FH



Oval

A countersunk head with a rounded top.
Abbreviated OH or OV



Pan

A slightly rounded head with short vertical sides.
Abbreviated PN



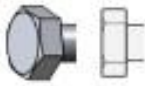
Truss

An extra wide head with a rounded top.



Round

A domed head.
Abbreviated RH



Hex

A hexagonal head.
Abbreviated HH or HX



Hex Washer

A hex head with built in washer.



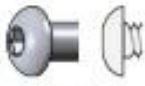
Slotted Hex Washer

A hex head with built in washer and a slot.



Socket Cap

A small cylindrical head using a socket drive.



Button

A low-profile rounded head using a socket drive.

Drive Types



Phillips and Frearson
An X-shaped drive.
Abbreviated PH



Slotted
A slot in the head.
Abbreviated SL



Combination
A combination of slotted and
Phillips drives.
Abbreviated combo



Socket, Hex or Allen
A hexagonal hole for use with
an Allen wrench.



One Way
Installs with a normal slotted
driver but can not be removed
without special tools.



Square
Also known as Robertson drive.
Abbreviated SQ or SD.



Torx
A six-pointed star pattern,
specifically designed to
prevent cam-out and stripped
heads.

Washer Types



Flat
A flat washer, used to distribute
load. Available in SAE, USS and
other patterns.



Fender
An oversize flat washer used to
further distribute load
especially on soft materials.



Finishing
A washer used to obtain a
'finished' look. Usually used
with oval head screws.



Split Lock
The most common style of
washer used to prevent nuts
and bolts from backing out.



External Tooth Lock
A washer with external 'teeth'.
Used to prevent nuts and bolts
from backing out.



Internal Tooth Lock
A washer with internal 'teeth'.
Used to prevent nuts and bolts
from backing out.



Square
A square shaped washer.



Dock
Dock washers have a larger
outside diameter and are
thicker than standard.



Ogee
Thick, large diameter, cast iron
washers with a curved or
sculpted appearance. Typically
used in dock and wood
construction.



Sealing
A soft neoprene washer
bonded to a metal backing.
Used to seal out air/water or
dampen noise and vibration.

Nut Types



Hex

A six sided nut. Also referred to as a Finished Hex Nut.



Heavy Hex

A heavier pattern version of a standard hex nut.



Nylon Insert Lock

A nut with a nylon insert to prevent backing off. Also referred to as a Nylock.



Jam

A hex nut with a reduced height.



Nylon Insert Jam Lock

A nylock nut with a reduced height.



Wing

A nut with "wings" for hand tightening.



Cap

A nut with a domed top over the end of the fastener.



Acorn

Acorn nuts are a high crown type of cap nut, used for appearance.



Flange

A nut with a built in washer like flange.



Tee

A nut designed to be driven into wood to create a threaded hole.



Square

A four sided nut.



Prevailing Torque Lock

A non-reversible lock nut used for high temperature applications.



K-Lock or Kep

A nut with an attached free-spinning external tooth lock washer.



Coupling

Coupling nuts are long nuts used to connect pieces of threaded rod or other male fasteners.



Slotted

Slotted nuts are used in conjunction with a cotter pin on drilled shank fasteners to prevent loosening.



Castle

Castle nuts are used in conjunction with a cotter pin on drilled shank fasteners to prevent loosening.