

HASKELL
America's Design-Build Leader

Carpentry Level One



Building Materials, Fasteners, and Adhesives 27102-13





Objectives

Describe the fasteners, anchors, and adhesives used in construction and explain their uses.

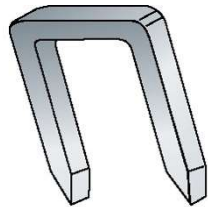
- a. Identify various types of nails and cite uses for each.
- b. Identify applications for staples.
- c. Identify various types of screws and cite uses for each.

Kickoff Activity

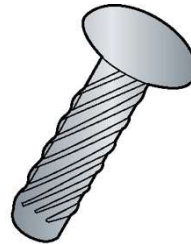
- Identify the fasteners pictured below.



**FLAT MACHINE
SCREW**



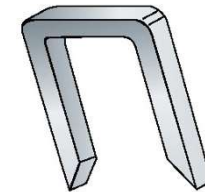
CHISEL STAPLE



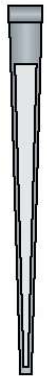
**TYPE U DRIVE
SCREW**



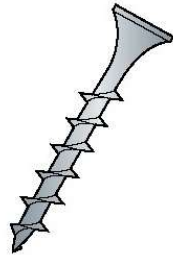
MACHINE BOLT



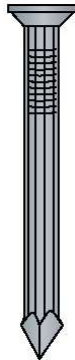
**INSIDE CHISEL
STAPLE**



CUT NAIL



**WOOD-TO-WOOD
DECK SCREW**



**MASONRY
NAIL**



**HEX WASHER
HEAD CONCRETE
SCREW**



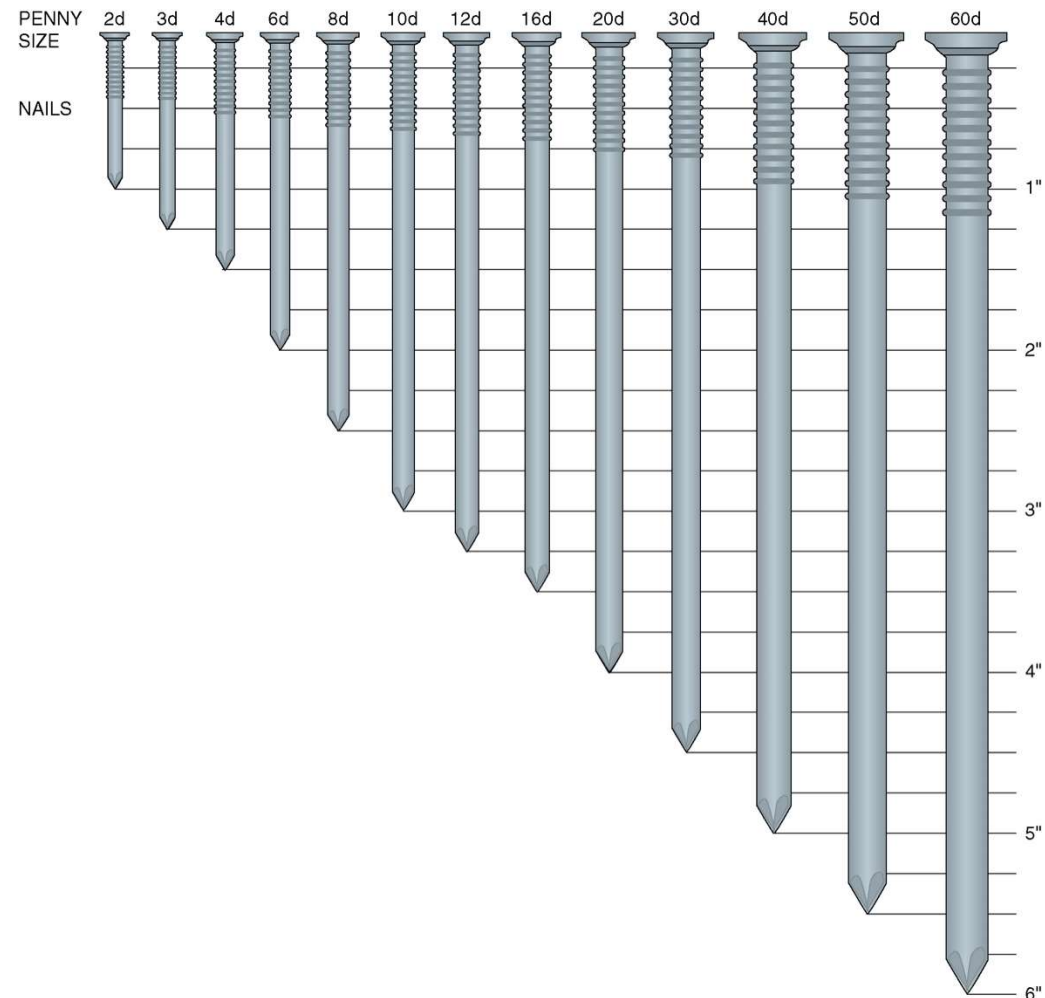
DUPLEX NAIL



**SELF-PIERCING
SCREW**

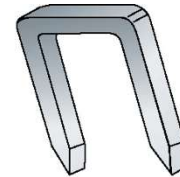
Section 5.1.0

- Nails are often referred to as 8-penny, 10-penny, and so on. In written form, the penny designation appears as a lowercase *d*.

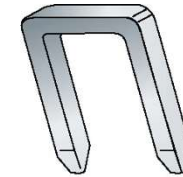


Section 5.2.1

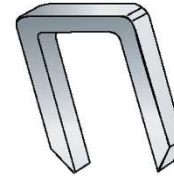
- The type of staple is determined by the type of point it has.



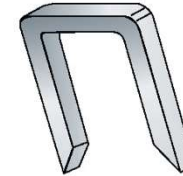
CHISEL



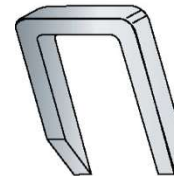
CROSSCUT CHISEL



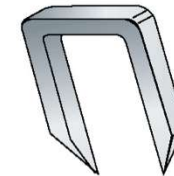
OUTSIDE CHISEL



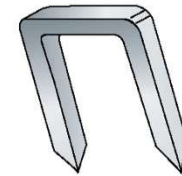
INSIDE CHISEL



DIVERGENT



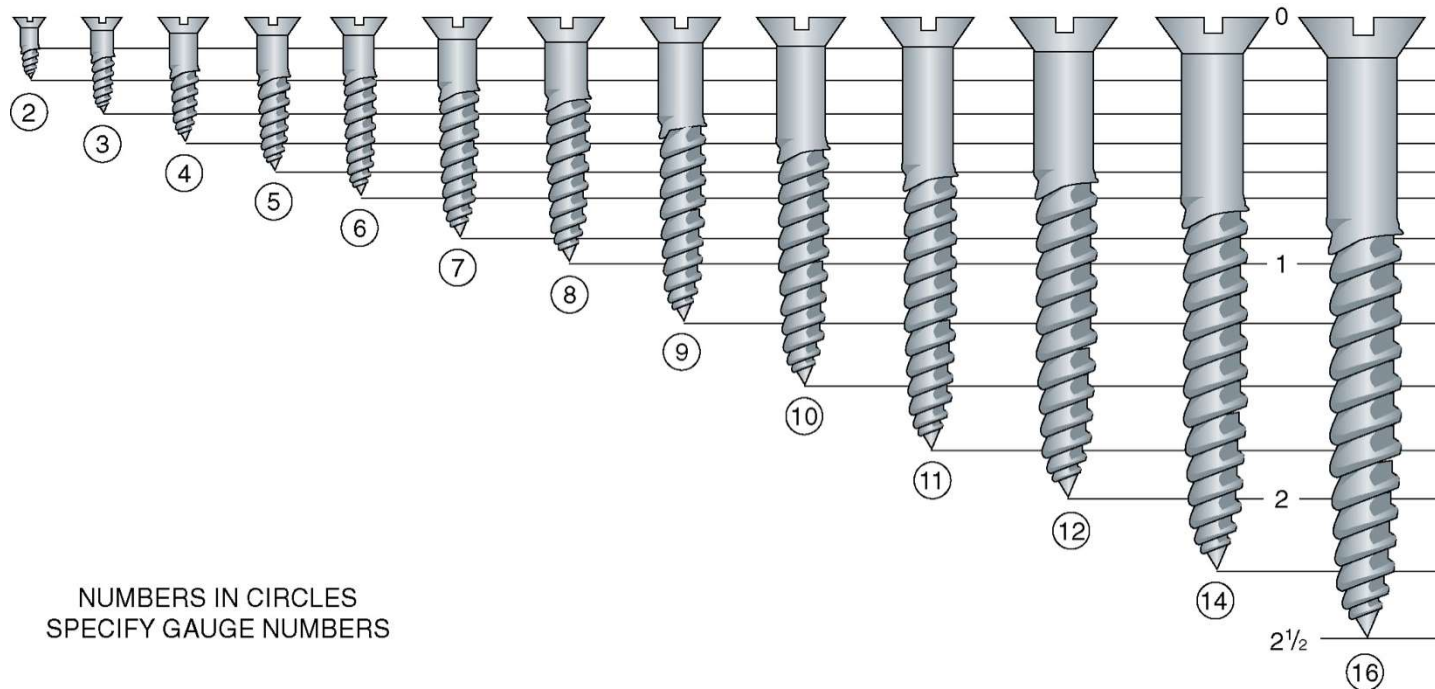
OUTSIDE CHISEL
DIVERGENT



SPEAR

Section 5.3.0

- Wood screws are commonly available in more than 20 different gauges (diameters) and lengths.



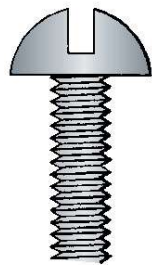
Section 5.3.2

- Sheet-metal screws are used to fasten light-gauge steel framing members to one another and to fasten other building materials to the framing members.
- Self-tapping sheet-metal screws include self-drilling and self-piercing screws.

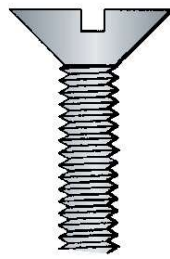


Section 5.3.3

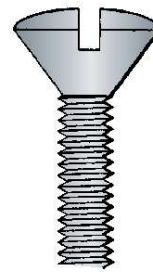
- Machine screws are used to fasten butt hinges to metal jambs or door closers to their brackets and to install lock sets.
- Machine screws have four basic head designs.



ROUND



FLAT



OVAL



FILLISTER

Section 5.3.4

- Lag screws are heavy-duty wood screws with square- or hex-shaped heads that provide great holding power.
- Lag screws are typically used to fasten heavy equipment to wood but can also be used to fasten equipment to concrete when a lag shield is used.



Section 5.3.5

- Concrete/masonry screws are used to fasten a device or fixture to concrete, CMUs, or brick without using an anchor.
- To provide a close tolerance between the pilot hole and the screw threads, a specially designed carbide drill bit and installation tool are used when installing these screws.



Section 5.3.6

- Deck screws are available in a wide variety of shapes and sizes for various applications.
 - Fastening treated lumber and other types of wood decking to wood framing
 - Fastening wood decking to different gauges of metal support structures
 - Fastening metal decking and sheeting to different gauges and types of metal structural support members



Section 5.3.7

- Depending on the type of drywall screw, it cuts through the gypsum board and anchors itself into wood and/or steel studs, holding the panel tight to the stud.



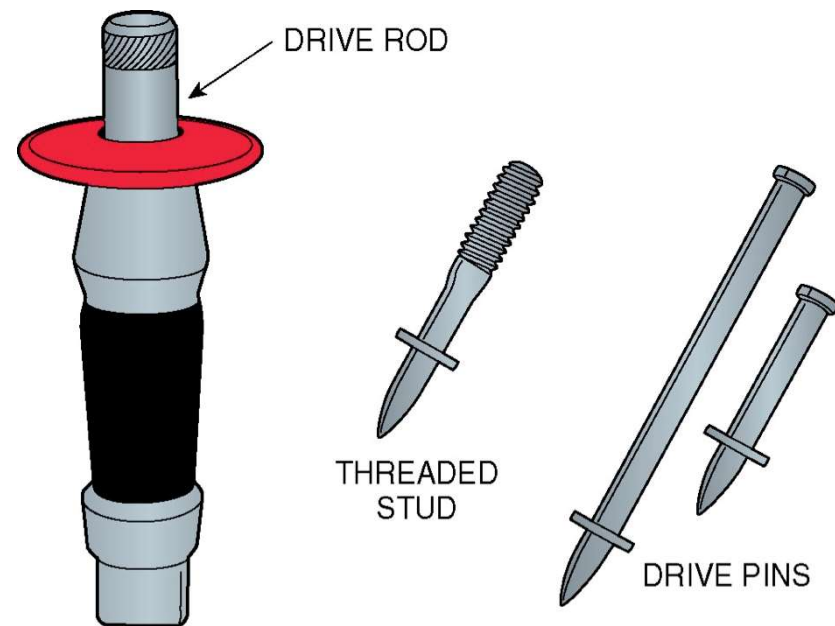
Section 5.3.8

- Drive screws are installed by hammering the screw into a drilled or punched hole of the proper size.
- Drive screws are mostly used to fasten parts that will not be exposed to much pressure.



Section 5.4.0

- Hammer-driven pins or threaded studs use an installation tool to fasten wood or steel to concrete or CMUs without pilot holes.



Section 5.5.0

- Bolts are often used to attach one unit or member to another.
- Bolts differ from screws in that bolts require a nut.



Wrap Up

Using the materials named on the board, identify fasteners that can be used to fasten the materials together. Be prepared to explain why you selected the given fastener.

Next Lesson: Anchors and Adhesives
Review Sections 5.6.0–5.10.4

