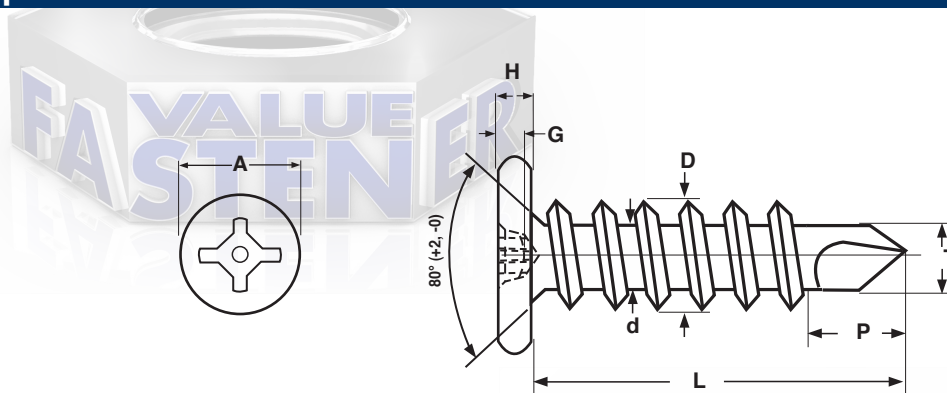


# Pancake Hd / Square-Phillips w/ Spaced Thread

## SELF-DRILLING



### PANCAKE SQUARE-PHILLIPS RECESS SELF-DRILLING SCREWS, SPACED THREAD AND #3 DRILL POINT

| Nominal<br>Diam &<br>threads<br>per Inch | A                |       | H                 |                            | G               |       | D                 |      | d                 |                            | P                     |      | T                       |      | #2 Square-<br>Phillips<br>Recess<br>Size |
|------------------------------------------|------------------|-------|-------------------|----------------------------|-----------------|-------|-------------------|------|-------------------|----------------------------|-----------------------|------|-------------------------|------|------------------------------------------|
|                                          | Head<br>Diameter |       | Head<br>Thickness |                            | Recess<br>Depth |       | Major<br>Diameter |      | Minor<br>Diameter |                            | Drill Point<br>Length |      | Drill point<br>Diameter |      |                                          |
|                                          | Max              | Min   | Max               | Min                        | Max             | Min   | Max               | Min  | Max               | Min                        | Max                   | Min  | Max                     | Min  |                                          |
| #10 - 16                                 | 0.447            | 0.423 | 0.08              | 0.068                      | 0.075           | 0.06  | 0.19              | 0.18 | 0.141             | 0.134                      | 0.26                  | 0.22 | 0.16                    | 0.15 | 2                                        |
| #12 - 14                                 | 0.447            | 0.423 | 0.09              | 0.078                      | 0.090           | 0.078 | 0.22              | 0.21 | 0.164             | 0.156                      | 0.30                  | 0.26 | 0.183                   | 0.17 | 2                                        |
| 1/4 - 14                                 | 0.525            | 0.498 | 0.09              | 0.078                      | 0.095           | 0.08  | 0.25              | 0.24 | 0.192             | 0.184                      | 0.35                  | 0.31 | 0.22                    | 0.21 | 3                                        |
|                                          |                  |       |                   |                            |                 |       |                   |      |                   |                            |                       |      |                         |      |                                          |
| Tolerance on Length                      |                  |       |                   | 7/8 thru 1 1/2": +0, -0.05 |                 |       |                   |      |                   | 1 5/8" & longer: +0, -0.06 |                       |      |                         |      |                                          |

|                                     |                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>                  | An externally threaded fastener with a low-profile, disk-shaped head, spaced thread and a drill point. The head is identically smooth on both the top and the bottom, bearing surface with a rounded edge. The top of the shank has a small section with an 80° countersink before it meets the bearing surface of the head. The recess is punched to accommodate a Phillips screwdriver. |                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Applications/<br/>Advantages</b> | Popular in applications that require minimal protrusion above the mating surface, including: metal roofing, steel framing, interior metal walls, HVAC applications. The combined Square/Phillips recess increases productivity with excellent torque transmission and resists cam-out.                                                                                                    | The 18-8 stainless drill screw offers superior corrosion resistance but is a significantly softer metal than case-hardened carbon steel. Therefore, considerably less torque should be used during installation. The 410 stainless screw will drill through harder material than the 18-8. The hardness of the material to be drilled should be a minimum of 10-20 Rockwell hardness points less than the screw's hardness. |
| <b>Material</b>                     | 1022 or equivalent steel                                                                                                                                                                                                                                                                                                                                                                  | 18-8 or 410 Stainless Steel                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Heat Treatment</b>               | Fasteners are heat treated in a carbonitriding or gas-carburizing system at a minimum temperature of 625°F, or in a cyaniding system (with consent of the buyer) at a minimum temperature of 450°F.                                                                                                                                                                                       | <b>410 SS:</b> An ideal method of hardening 410 stainless screws is a bright hardening process, which typically involves a vacuum furnace. Another key factor affecting hardness is the chemistry of the fastener--most elements have maximum values but not minimums. This fact can contribute to hardness variance.<br><br>18-8 is only hardenable by cold-working.                                                       |
| <b>Surface<br/>Hardness</b>         | Vickers HV 545 - 655                                                                                                                                                                                                                                                                                                                                                                      | <b>410 SS:</b> Vickers HV 550 minimum                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Core Hardness</b>                | Rockwell C32 - 40                                                                                                                                                                                                                                                                                                                                                                         | <b>410 SS:</b> Rockwell C32 - 42                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Plating</b>                      | Steel screws are usually supplied with a clear zinc finish.                                                                                                                                                                                                                                                                                                                               | 18-8 & 410 stainless screws are provided with commercial passivation.                                                                                                                                                                                                                                                                                                                                                       |