

Flangeform Ball Studs are one piece attachments with unique ribs designed for installation into thin gauge materials. The ball stud plunges the pre-punched hole and wraps itself around the material whilst the ribs embed themselves providing an integral high strength attachment point with exceptionally high bending moment properties. The ball stud can be manufactured with a large or small head depending upon the performance required and the space available. In addition the Flangeform ball stud can be auto fed in-die.

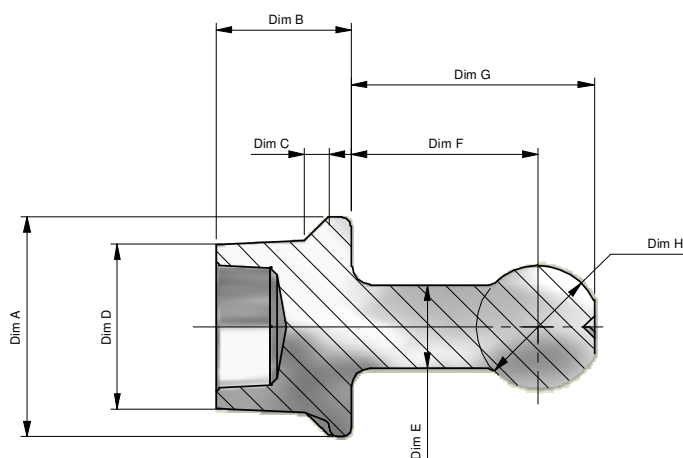
## PROCESS

- **HOLE PREPERATION**—A pre-punched or drilled hole is required with a tolerance of +/- 0.1mm. Refer to product data sheet for hole sizes.
- **SHEET PREPERATION**— Flangeform is suited up to 80Rb, in some cases a pre-form may be required.
- **SHEET THICKNESS**—Refer to the product data sheet for material thickness range
- **INSTALLATION**—Can be used on progression, transfer, off-line mechanical / hydraulic presses using autofed or manual technique.
- **TOOLING**—Mini-Die (bottom tool) will vary depending upon the material thickness, hole size and hardness

## ADVANTAGES

- High strength attachment point in thin materials
- Accurate & positive positioning
- High bending moment resistance
- One piece
- Pull & push out strength is of similar performance,
- Provides a flush mounting surface
- No weld splatter / fumes—environmentally friendly process
- Can be installed into 2 layers of material
- Ideally suited to multiple insertion and automated assembly in die or off line.

## Technical data



| Head Size | Flange Dia.<br>A | Overall Head Height<br>B | Spline Length<br>C | Can Dia.<br>D | E   | F    | G     | H  | Material Thickness<br>mm | Hole Size<br>Typical | Tonnage<br>Typical |
|-----------|------------------|--------------------------|--------------------|---------------|-----|------|-------|----|--------------------------|----------------------|--------------------|
| M6        | 13.1             | 9.1                      | 4.95               | 9.97          | 6.7 | 5-15 | 10-20 | 10 | 0.7                      | 4.8                  | 3.5                |
|           |                  |                          |                    |               |     |      |       |    | 1                        | 4.8                  | 3.5                |
|           |                  |                          |                    |               |     |      |       |    | 1.2                      | 5.5                  | 4                  |
|           |                  |                          |                    |               |     |      |       |    | 1.5                      | 5.7                  | 4.5                |
|           |                  |                          |                    |               |     |      |       |    | 2                        | 5.8                  | 5                  |
| M8        | 17.7             | 10.85                    | 2                  | 13.3          | 6.7 | 5-15 | 10-20 | 10 | 2.5                      | 6.2                  | 5.5                |
|           |                  |                          |                    |               |     |      |       |    | 0.7                      | 5.1                  | 5                  |
|           |                  |                          |                    |               |     |      |       |    | 1                        | 5.1                  | 5                  |
|           |                  |                          |                    |               |     |      |       |    | 1.2                      | 5.9                  | 5.5                |
|           |                  |                          |                    |               |     |      |       |    | 1.5                      | 6.5                  | 7.5                |
|           |                  |                          |                    |               |     |      |       |    | 2                        | 6.5                  | 8                  |
|           |                  |                          |                    |               |     |      |       |    | 2.5                      | 6.6                  | 9.5                |
|           |                  |                          |                    |               |     |      |       |    | 3                        | 6.9                  | 10                 |

Designs requiring different lengths & ball diameters are possible, please contact the engineering department for further information.