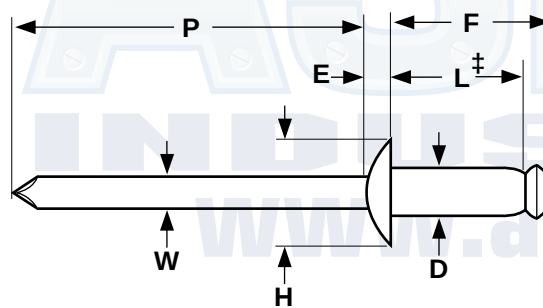


# Rivets

## Aluminum Rivet/ Steel Mandrel

### Dome Head Blind Rivet



| ALUMINUM BODY/STEEL MANDREL DOME HEAD BREAK-STEM BLIND RIVETS |                      |       |               |       |             |                  |                    |                       |                     |                       | SAE J-1200         |      |
|---------------------------------------------------------------|----------------------|-------|---------------|-------|-------------|------------------|--------------------|-----------------------|---------------------|-----------------------|--------------------|------|
| Nominal Rivet Diameter                                        | D                    |       | H             |       | E           | W                | P                  | F                     | Ultimate Shear Load | Ultimate Tensile Load | Mandrel Break Load |      |
|                                                               | Rivet Shank Diameter |       | Head Diameter |       | Head Height | Mandrel Diameter | Mandrel Protrusion | Blind Side Protrusion |                     |                       |                    |      |
|                                                               | Max                  | Min   | Max           | Min   | Max         | Nom              | Min                | Max                   | Min, lb.            | Min, lb.              | Max                | Min  |
| 3/32                                                          | 0.096                | 0.090 | 0.198         | 0.178 | 0.032       | 0.057            | 1.00               | L + 0.100             | 90                  | 120                   | 275                | 175  |
| 1/8                                                           | 0.128                | 0.122 | 0.262         | 0.238 | 0.040       | 0.076            | 1.00               | L + 0.120             | 170                 | 220                   | 600                | 400  |
| 5/32                                                          | 0.159                | 0.153 | 0.328         | 0.296 | 0.050       | 0.095            | 1.06               | L + 0.140             | 260                 | 350                   | 850                | 600  |
| 3/16                                                          | 0.191                | 0.183 | 0.394         | 0.356 | 0.060       | 0.114            | 1.06               | L + 0.160             | 380                 | 500                   | 1050               | 750  |
| 1/4                                                           | 0.255                | 0.246 | 0.525         | 0.475 | 0.080       | 0.151            | 1.25               | L + 0.180             | 700                 | 920                   | 1850               | 1450 |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>              | An aluminum blind fastener which has a self-contained steel mandrel which permits the formation of an upset on the blind end of the rivet and expansion of the rivet shank during rivet setting to join the component parts of an assembly. The steel mandrel is pulled into or against the rivet body, breaking at or near the junction of the mandrel shank and its upset end. The head of the body is slightly rounded and twice as wide as the body diameter.                                                        |
| <b>Applications/ Advantages</b> | Dome head is the most commonly specified head style because of its low profile and neat, finished appearance. The steel mandrel gives this style rivet greater tensile and shear values than aluminum rivets with aluminum mandrels. They should be used when fastening materials with similar mechanical and physical properties.                                                                                                                                                                                       |
| <b>Material</b>                 | <i>Rivet:</i> Aluminum Alloy 5056 or 5154 or equivalent alloy. Rivets have no additional finish except for sizes #42 & 44 which are also available painted white. Note: Some manufacturers use aluminum alloy 5052 which is acceptable but will lower the shear, tensile and mandrel break load standards to those of aluminum rivets with aluminum mandrels (see page 144).<br><i>Mandrel:</i> Carbon steel 1006 or equivalent. May be furnished plain or with a protective coating, at the option of the manufacturer. |
| <b>Shear Strength</b>           | Rivets shall have ultimate shear loads not less than the minimum ultimate shear loads specified for the applicable size given in the above table.                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Tensile Strength</b>         | Rivets shall have ultimate tensile loads not less than the minimum ultimate tensile loads specified for the applicable size given in the above table.                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Mandrel Break Load</b>       | While the rivet is being set, the axially applied load necessary to break the mandrel shall be within the limits specified for the applicable rivet size given in the above table.                                                                                                                                                                                                                                                                                                                                       |

**PART NUMBER COMPARISON - ALUMINUM RIVET/STEEL MANDREL**

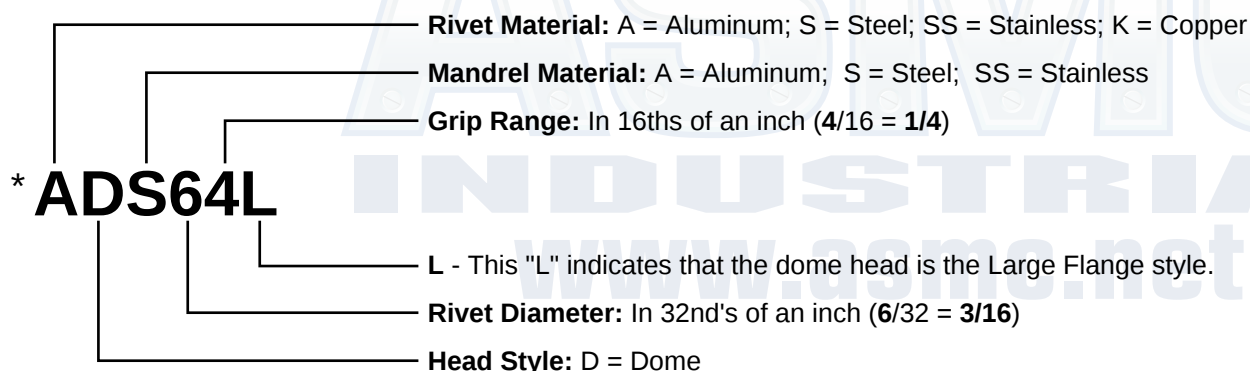
| Kanebridge | Huck/<br>Automatic | Pop®    | Marson/<br>Creative | Star    | Celus®  | Cherry  | Gesipa®  |
|------------|--------------------|---------|---------------------|---------|---------|---------|----------|
| ADS31      | -                  | -       | -                   | -       | -       | -       | -        |
| ADS32      | ABS32              | AD32BS  | AB3-2               | -       | A/S 32D | BSP-32  | GSMD32A  |
| ADS34      | ABS34              | AD34BS  | AB3-4               | -       | A/S 34D | BSP-34  | GSMD34A  |
| ADS41      | ABS41              | AD41BS  | AB4-1               | 4-1ASD  | A/S 41D | BSP-41  | GSMD41A  |
| ADS42      | ABS42              | AD42BS  | AB4-2               | 4-2ASD  | A/S 42D | BSP-42  | GSMD42A  |
| ADS43      | ABS43              | AD43BS  | AB4-3               | 4-3ASD  | A/S 43D | BSP-43  | GSMD43A  |
| ADS44      | ABS44              | AD44BS  | AB4-4               | 4-4ASD  | A/S 44D | BSP-44  | GSMD44A  |
| ADS45      | ABS45              | AD45BS  | AB4-5               | 4-5ASD  | A/S 45D | BSP-45  | GSMD45A  |
| ADS46      | ABS46              | AD46BS  | AB4-6               | 4-6ASD  | A/S 46D | BSP-46  | GSMD46A  |
| ADS48      | ABS48              | AD48BS  | AB4-8               | 4-8ASD  | A/S 48D | BSP-48  | GSMD48A  |
| ADS52      | ABS52              | AD52BS  | AB5-2               | 5-2ASD  | A/S 52D | BSP-52  | GSMD52A  |
| ADS53      | ABS53              | AD53BS  | AB5-3               | 5-3ASD  | A/S 53D | -       | GSMD53A  |
| ADS54      | ABS54              | AD54BS  | AB5-4               | 5-4ASD  | A/S 54D | BSP-54  | GSMD54A  |
| ADS56      | ABS56              | AD56BS  | AB5-6               | 5-6ASD  | A/S 56D | BSP-56  | GSMD56A  |
| ADS58      | ABS58              | AD58BS  | AB5-8               | -       | A/S 58D | BSP-58  | GSMD58A  |
| ADS510     | ABS510             | -       | -                   | -       | A/S510D | BSP-510 | -        |
| ADS512     | -                  | -       | -                   | -       | -       | -       | -        |
| ADS516     | -                  | -       | -                   | -       | -       | -       | -        |
| ADS62      | ABS62              | AD62BS  | AB6-2               | 6-2ASD  | A/S 62D | BSP-62  | GSMD62A  |
| ADS64      | ABS64              | AD64BS  | AB6-4               | 6-4ASD  | A/S 64D | BSP-64  | GSMD64A  |
| ADS66      | ABS66              | AD66BS  | AB6-6               | 6-6ASD  | A/S 66D | BSP-66  | GSMD66A  |
| ADS68      | ABS68              | AD68BS  | AB6-8               | 6-8ASD  | A/S 68D | BSP-68  | GSMD68A  |
| ADS610     | ABS610             | AD610BS | AB6-10              | 6-10ASD | A/S610D | BSP-610 | GSMD610A |
| ADS612     | ABS612             | AD612BS | AB6-12              | 6-12ASD | A/S612D | BSP-612 | GSMD612A |
| ADS614     | ABS614             | AD614BS | -                   | -       | A/S614D | BSP-614 | GSMD614A |
| ADS616     | ABS616             | AD616BS | AB6-16              | -       | A/S616D | BSP-616 | GSMD616A |
| ADS618     | ABS618             | -       | -                   | -       | -       | -       | -        |
| ADS620     | -                  | -       | -                   | -       | -       | -       | -        |
| ADS622     | -                  | -       | -                   | -       | -       | -       | -        |
| ADS84      | ABS84              | AD84BS  | AB8-4               | -       | A/S 84D | BSP-84  | GSMD84A  |
| ADS86      | ABS86              | AD86BS  | AB8-6               | -       | A/S 86D | BSP-86  | GSMD86A  |
| ADS88      | ABS88              | AD88BS  | AB8-8               | -       | A/S 88D | BSP-88  | GSMD88A  |
| ADS810     | ABS810             | AD810BS | -                   | -       | A/S810D | BSP-810 | GSMD810A |

®Celus is a registered trademark of Celus Fasteners Manufacturing Inc..

®Gesipa is a registered trademark of Gesipa Fasteners USA Inc..

®Pop is a registered trademark of Pop Fastening Systems, Emhart Fastening Technologies, a Black & Decker Company.

Kanebridge's rivets are not manufactured by or connected with the producers of Gesipa® or Pop® rivets.



\*Kanebridge Part Number

## Notes on Rivet Selection

**Strength-** The tensile and shear strengths required for an application must be determined and a rivet selected that meets those requirements.

**Materials-** Choose a rivet that is made of a metal with similar mechanical and physical properties as the materials being joined. This is especially critical in assemblies where higher temperatures and/or corrosive elements are present. Metal compatibility helps reduce the risks of galvanic corrosion and material fatigue.

**Grip Range-** Measure the total thickness of the materials being fastened. This is known as the "rivet grip". The grip ranges of the most commonly available rivets are listed in the table below. Sufficient rivet length is necessary for proper formation of the secondary head on the blind side of the assembly. Multi-grip rivets have wider grip ranges than standard break-stem blind rivets.

| APPLICATION DATA FOR STANDARD BREAK-STEM BLIND RIVETS |            |               |                       |       |            |              |             |               |                       |       | SAE J-1200 |
|-------------------------------------------------------|------------|---------------|-----------------------|-------|------------|--------------|-------------|---------------|-----------------------|-------|------------|
| Rivet Number                                          | Grip Range | Barrel Length | Recommended Hole Size |       | Drill Size | Rivet Number | Grip Range  | Barrel Length | Recommended Hole Size |       | Drill Size |
|                                                       |            | Max           | Max                   | Min   |            |              |             | Max           | Max                   | Min   |            |
| 31                                                    | .020-.062  | .187          | 0.100                 | 0.097 | #41        | 62           | .020-.125   | .325          | 0.196                 | 0.192 | #11        |
| 32                                                    | .020-.125  | .250          |                       |       |            | 63           | .126-.187   | .387          |                       |       |            |
| 33                                                    | .087-.187  | .312          |                       |       |            | 64           | .188-.250   | .450          |                       |       |            |
| 34                                                    | .126-.250  | .375          |                       |       |            | 66           | .251-.375   | .575          |                       |       |            |
| 41                                                    | .020-.062  | .212          | 0.133                 | 0.129 | #30        | 68           | .376-.500   | .700          |                       |       |            |
| 42                                                    | .063-.125  | .275          |                       |       |            | 610          | .510-.625   | .825          |                       |       |            |
| 43                                                    | .126-.187  | .337          |                       |       |            | 612          | .626-.750   | .950          |                       |       |            |
| 44                                                    | .188-.250  | .400          |                       |       |            | 614          | .751-.875   | 1.075         |                       |       |            |
| 45                                                    | .251-.312  | .462          |                       |       |            | 616          | .876-1.000  | 1.200         |                       |       |            |
| 46                                                    | .313-.375  | .525          |                       |       |            | 618          | 1.001-1.125 | 1.325         |                       |       |            |
| 48                                                    | .376-.500  | .650          |                       |       |            | 620          | 1.126-1.250 | 1.450         |                       |       |            |
| 52                                                    | .020-.125  | .300          |                       |       |            | 622          | 1.251-1.375 | 1.575         |                       |       |            |
| 53                                                    | .125-.187  | .362          | 0.164                 | 0.160 | #20        | 84           | .126-.250   | .500          | 0.261                 | 0.257 | F          |
| 54                                                    | .188-.250  | .425          |                       |       |            | 86           | .251-.375   | .625          |                       |       |            |
| 56                                                    | .251-.375  | .550          |                       |       |            | 88           | .376-.500   | .750          |                       |       |            |
| 58                                                    | .376-.500  | .675          |                       |       |            | 810          | .501-.625   | .875          |                       |       |            |
| 510                                                   | .501-.625  | .800          |                       |       |            | 812          | .626-.750   | .990          |                       |       |            |
| 512                                                   | .626-.750  | .925          |                       |       |            | 816          | .751-1.000  | 1.240         |                       |       |            |
| 516                                                   | .876-1.000 | 1.175         |                       |       |            |              |             |               |                       |       |            |