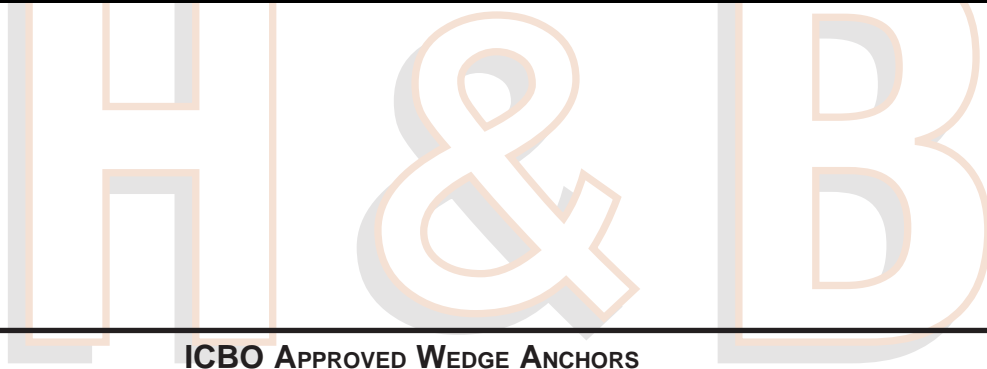


### ICBO APPROVED WEDGE ANCHORS

FF-S-325 Group II,  
Type 4, Class 1

| W x L<br>Anchor Size | Minimum Embedment<br>(inches) | Fastens Material Up To | Thread Length | Average Ultimate Tensile & Shear Values |                   |
|----------------------|-------------------------------|------------------------|---------------|-----------------------------------------|-------------------|
|                      |                               |                        |               | 4000 psi concrete                       | 2000 psi concrete |
|                      |                               |                        |               | Tensile                                 | Shear             |
| 1/4-20 x 1-3/4       | 1                             | 3/8                    | 7/8           | 1500                                    | 900               |
| 1/4-20 x 2           |                               | 3/4                    | 1-1/8         |                                         |                   |
| 1/4-20 x 2-1/4       |                               | 7/8                    | 1-1/4         |                                         |                   |
| 1/4-20 x 3           |                               | 1-1/2                  | 3/4           |                                         |                   |
| 1/4-20 x 3-1/4       |                               | 1-7/8                  | 2-1/4         |                                         |                   |
| 5/16-18 x 2-3/4      | 1-1/4                         | 1-1/8                  | 1-3/4         | 1900                                    | 2700              |
| 5/16-18 x 3          |                               | 1-3/8                  | 1-3/4         |                                         |                   |
| 5/16-18 x 4          |                               | 2-3/8                  | 1             |                                         |                   |
| 3/8-16 x 2-1/4       | 1-1/2                         | 3/8                    | 1-1/2         | 3600                                    | 4100              |
| 3/8-16 x 2-3/4       |                               | 7/8                    | 1-3/4         |                                         |                   |
| 3/8-16 x 3           |                               | 1-1/8                  | 3             |                                         |                   |
| 3/8-16 x 3-1/4       |                               | 1-3/8                  | 2             |                                         |                   |
| 3/8-16 x 3-1/2       |                               | 1-5/8                  | 2-7/8         |                                         |                   |
| 3/8-16 x 3-3/4       |                               | 1-7/8                  | 2-3/4         |                                         |                   |
| 3/8-16 x 5           |                               | 3-1/8                  | 2-3/4         |                                         |                   |
| 3/8-16 x 6-1/2       |                               | 4-5/8                  | 2-1/8         |                                         |                   |
| 3/8-16 x 7           |                               | 4-3/4                  | 5-3/4         |                                         |                   |
| 1/2-13 x 2-3/4       |                               | 2                      | 1/4           |                                         |                   |
| 1/2-13 x 3           | 1/2                           |                        | 1-1/2         |                                         |                   |
| 1/2-13 x 3-1/4       | 3/4                           |                        | 1-13/16       |                                         |                   |
| 1/2-13 x 3-3/4       | 1/4                           |                        | 2-1/4         |                                         |                   |
| 1/2-13 x 4           | 1-1/2                         |                        | 2-1/2         |                                         |                   |
| 1/2-13 x 4-1/4       | 1-1/2                         |                        | 1-1/4         |                                         |                   |
| 1/2-13 x 4-1/2       | 1-3/4                         |                        | 3             |                                         |                   |
| 1/2-13 x 5-1/2       | 3                             |                        | 2-3/4         |                                         |                   |
| 1/2-13 x 6           | 3-1/2                         |                        | 2-1/2         |                                         |                   |
| 1/2-13 x 7           | 4-1/2                         |                        | 2-3/8         |                                         |                   |
| 1/2-13 x 8-1/2       | 6                             |                        | 2-1/2         |                                         |                   |
| 1/2-13 x 10          | 7-1/2                         |                        | 2-1/2         |                                         |                   |
| 1/2-13 x 12          | 9-1/2                         |                        | 2-1/2         |                                         |                   |
| 5/8-11 x 3-1/2       | 2-1/2                         | 3/8                    | 1-7/8         | 6500                                    | 9400              |
| 5/8-11 x 4           |                               | 7/8                    | 2-1/2         |                                         |                   |
| 5/8-11 x 4-1/2       |                               | 1-3/8                  | 2-7/8         |                                         |                   |
| 5/8-11 x 5           |                               | 1-7/8                  | 3-3/8         |                                         |                   |
| 5/8-11 x 5-1/2       |                               | 2-3/8                  | 2-1/2         |                                         |                   |
| 5/8-11 x 6           |                               | 2-7/8                  | 4-3/8         |                                         |                   |
| 5/8-11 x 7           |                               | 3-7/8                  | 5-3/8         |                                         |                   |
| 5/8-11 x 8-1/2       |                               | 5-3/8                  | 1-5/8         |                                         |                   |
| 5/8-11 x 10          |                               | 6-7/8                  | 2-1/2         |                                         |                   |
| 5/8-11 x 12          |                               | 8-7/8                  | 2-1/4         |                                         |                   |



| ICBO APPROVED WEDGE ANCHORS |                            |                        |               | FF-S-325 Group II, Type 4, Class 1      |                         |
|-----------------------------|----------------------------|------------------------|---------------|-----------------------------------------|-------------------------|
| W x L                       | Minimum Embedment (inches) | Fastens Material Up To | Thread Length | Average Ultimate Tensile & Shear Values |                         |
| Anchor Size                 |                            |                        |               | 4000 psi concrete Tensile               | 2000 psi concrete Shear |
| 3/4-10 x 4-1/4              | 3                          | 1/2                    | 2-1/2         | 7200                                    | 14,800                  |
| 3/4-10 x 4-1/2              |                            | 7/10                   | 2-1/2         |                                         |                         |
| 3/4-10 x 4-3/4              |                            | 1                      | 2-1/8         |                                         |                         |
| 3/4-10 x 5-1/2              |                            | 1-3/4                  | 2-3/4         |                                         |                         |
| 3/4-10 x 6                  |                            | 2-1/5                  | 2-1/2         |                                         |                         |
| 3/4-10 x 6-1/4              |                            | 2-1/2                  | 3             |                                         |                         |
| 3/4-10 x 7                  |                            | 3-1/4                  | 2-1/4         |                                         |                         |
| 3/4-10 x 8-1/2              |                            | 4-3/4                  | 2-3/8         |                                         |                         |
| 3/4-10 x 10                 |                            | 6-1/4                  | 2-3/8         |                                         |                         |
| 3/4-10 x 12                 |                            | 8-1/4                  | 2-1/2         |                                         |                         |
| 7/8-9 x 6                   | 3-1/2                      | 1-5/8                  | 2-1/2         | 12,800                                  | 21,500                  |
| 7/8-9 x 8                   |                            | 3-5/8                  | 2-1/2         |                                         |                         |
| 7/8-9 x 10                  |                            | 5-5/8                  | 2-1/4         |                                         |                         |
| 1-8 x 6                     | 4                          | 1                      | 2-1/2         | 13,700                                  | 27,300                  |
| 1-8 x 9                     |                            | 4                      | 2-1/4         |                                         |                         |
| 1-8 x 12                    |                            | 7                      | 2-1/2         |                                         |                         |
| 1 1/4-7 x 9                 | 5-5/8                      | 2-1/8                  | 3-1/4         | 27,320                                  | 38,035                  |
| 1 1/4-7 x 12                |                            | 5-1/8                  | 3-1/4         |                                         |                         |

|                                 |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                  |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Description</b>              | A four-piece assembly consisting of (1) an anchor bolt threaded at one end with a unified pitch, and a shoulder at the opposite end which retains a free-spinning clip, (2) a clip with three lateral slits and projections designed to exert greater holding power the greater the load that is applied, (3) a hex nut, and (4) a flat washer.                                       |                                                                                                                                                                                                                                  |
| <b>Applications/ Advantages</b> | These are heavy-duty, non-bottom bearing anchors of greater shear strength than other light and medium-duty expansion anchors. The design of the expansion clip assures full contact with the masonry. Wedge anchors withstand temperature fluctuations well. For best performance, minimum anchor spacing should be 10 hole diameters and minimum edge distance be 5 hole diameters. |                                                                                                                                                                                                                                  |
| <b>Material</b>                 | <i>Carbon Steel</i>                                                                                                                                                                                                                                                                                                                                                                   | <i>Type 304 Stainless</i>                                                                                                                                                                                                        |
|                                 | <b>Anchor Body:</b> AISI 1018 - 12L14 or equivalent free-machining carbon steel<br><b>Expansion Wedge:</b> AISI C1008 - 1010 or equivalent carbon steel<br><b>Nut:</b> ASTM A-563 Grade-A carbon steel<br><b>Washer:</b> Carbon steel                                                                                                                                                 | <b>Anchor Body:</b> Type 304Cu (1/4" thru 3/4" diameters)<br>Type 304 (7/8 thru 1-1/4" diams & all lengths over 7")<br><b>Expansion Wedge:</b> Type 304 stainless<br><b>Nut:</b> 18-8 stainless<br><b>Washer:</b> 18-8 stainless |
| <b>Ultimate Shear Strength</b>  | See average test values as listed in above table. <b>Important:</b> The maximum working loads should not exceed 1/4 of the average ultimate values for a specific size.                                                                                                                                                                                                               |                                                                                                                                                                                                                                  |
| <b>Plating</b>                  | Steel wedge anchors are typically zinc or mechanically galvanized plated                                                                                                                                                                                                                                                                                                              | Stainless wedge anchors are usually supplied without any additional coating.                                                                                                                                                     |