Joint Fasteners

Applications
Applies even, controlled pressure between joint members, eliminating twisting and buckling.

Mounting: Cabinet/counter
Material: Steel

Finishes:
Zinc (ZC): Long-lasting, corrosion resistant finish

Features:
- Designed for 3/4" thick wood
- Use provided drill bit (516-64) and guide (516-63) packed with each carton
- Made in the USA
- Available from open stock

Tite-Joint® Fasteners

- **516 Series Tite-Joint® Fastener (Standard Pack)**: 516/25 ZC, 2" – 3-1/2" (center to center)
- **516 Series Tite-Joint® Fastener (Builders Pack)**: 516/100 ZC, 2" – 3-1/2" (center to center)

Tite-Joint® Components and Accessories

- Draw Bolt: 516-1
- Locking Sleeve: 516-60
- Tightening Rod: 516-62
- Drill Guide (Locates both holes.): 516-63
- Drill Bit (Has special shoulder to control hole depth to 5/8"): 516-64
- Tightening Assembly: 516-80 100

Bolt-Style Fasteners

Applications
Applies even, controlled pressure between joint members, eliminating twisting and buckling.

Mounting: Cabinet/counter
Material: Steel

Finishes:
Zinc (ZC): Long-lasting, corrosion resistant finish

Features:
- Economical and easy to install
- Made in the USA
- Available from open stock

<table>
<thead>
<tr>
<th>Standard Pack (100/box)</th>
<th>Part Number</th>
<th>Bolt Length</th>
<th>Flat Bar Plate Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>510 ZC</td>
<td>4&quot;</td>
<td>5/16&quot; x 5/8&quot; x 1-1/2&quot;</td>
<td></td>
</tr>
<tr>
<td>513 ZC</td>
<td>4&quot;</td>
<td>7/16&quot; x 3/16&quot; x 1-1/4&quot;</td>
<td></td>
</tr>
<tr>
<td>517 ZC*</td>
<td>3-1/2&quot;</td>
<td>7/16&quot; x 3/16&quot; x 1-1/4&quot;</td>
<td></td>
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</tbody>
</table>

* Same as 513 ZC, but with 3-1/2" bolt
Joint Fasteners

516 Tite-Joint' Fastener

510 Bolt-style Fastener

513/517 Bolt-style Fastener

1. PRODUCT NAME
516 Tite-Joint' Fastener, 510 Bolt-style Fastener, 513/517 Bolt-style Fastener. Applies even, controlled pressure between joint members, eliminating twisting and buckling.

2. MANUFACTURER
Knape & Vogt
2700 Oak Industrial Dr. NE, Grand Rapids, MI USA 49505-6026
(616) 459-3311 | www.kv.com

3. PRODUCT DESCRIPTION

Basic Use: KV Joint Fasteners apply even, controlled pressure between joint members, eliminating twisting and buckling. KV Joint Fasteners have several accessories to aid in installing fasteners correctly and quickly: 516-1 Draw Bolt, 516-60 Locking Sleeve, 516-62 Tightening Rod, 516-63 Drill Guide, 516-64 Drill Bit, and 516-80 100 Tightening Assembly.

Composition and Materials:
516 Tite-Joint' Fastener: Steel
510 Bolt-style Fastener: Steel
513/517 Bolt-style Fastener: Steel

Sizes:
516 Tite-Joint' Fastener: Center to Center: 2" – 3-1/2"
510 Bolt-style Fastener: Bolt: 4", Flat Bar Plate: 5/16" x 5/8" x 1-1/2"
513Bolt-style Fastener: Bolt: 4", Flat Bar Plate: 7/16" x 3/16" x 1-1/4"
517 Bolt-style Fastener: Bolt: 3-1/2", Flat Bar Plate: 7/16" x 3/16" x 1-1/4"

Finishes: Zinc (AC).

4. TECHNICAL DATA

Applicable Standards: KV Joint Fasteners are tested to meet or exceed ANSI performance standards as established by BHMA in the Knape & Vogt® (KV) recommended application.

Results were obtained by laboratory testing in accordance with ANSI/ BHMA A156.9-2003 performance standard. Actual use conditions will typically result in lower load capacity than laboratory conditions.

Representative testing in a fully configured application is the only way to assure proper performance, durability, and safety.

The aforementioned shelf support load limit is intended as a guide only and not as a warranty. Actual load bearing capabilities depend upon the type of cabinet/wall material and use of appropriate shelf standard mounting fasteners, installation technique, shelf standard spacing, shelf size and construction.

Environmental Considerations:
Environment: Excessive humidity, salts, or other chemical agents can corrode the finish and attack metal or plastic components.
Fastening: Inadequate or incorrect fasteners can result in the standard pulling loose and causing damage.
Alignment: Improper standard/bracket alignment can result in a shelving system that is ineffective and unsafe.

5. INSTALLATION
1. Drill 7/8" holes from back side in each piece to accommodate tightening nut and locking sleeve. Drill 7/16" holes in edges of both pieces for draw bolt.
2. Insert tightening nut in 7/8" hole facing threaded end towards the joint. Insert draw bolt and thread into nut.
3. Join both wood members. Insert locking sleeves in the remaining 7/8" hole so that the slotted sleeve engages the rounded portion on bolt.
4. Tighten nut with tightening tool or nail set. Each pound of pressure on the tightening tool exerts 500 pounds of force on the joint.

6. AVAILABILITY AND COST

Availability: Knape & Vogt® (KV) products are available from stocking distributors and through KV® Representatives worldwide.

Cost: Current pricing is available from area KV® Representatives. Please call for the nearest representative: (800) 253-1561.

7. WARRANTY

Limited Lifetime Warranty: Knape & Vogt offers its standard Limited Lifetime Warranty to the initial purchaser of commercial products. This warranty covers defects in materials and workmanship which occur during normal use, and the remedy is limited to repair or replacement of defective products, at KV's option. Certain types of defects and damage are excluded from warranty coverage, costs and expenses are not covered, and additional restrictions apply. A copy of the Limited Lifetime Warranty, with all warranty details, limitations and disclaimers, is available on the Customer Care Connection location at www.kv.com or from KV Customer Service, 2700 Oak Industrial Drive, Grand Rapids, MI 49505, (800) 253-1561.

8. MAINTENANCE

KV Joint Fasteners require no maintenance. Inspect for proper fit periodically and adjust when necessary. Replace as required or recommended by application.

9. TECHNICAL SERVICES

Knape & Vogt® and area representatives can assist with any application. For further information, or for the name of the representative nearest you, please call Knape & Vogt® Customer Service: (800) 253-1561 or visit our website at: www.kv.com.

10. FILING SYSTEMS

Additional product information, data sheets, application sheets, and a full catalog are available upon request from Knape & Vogt®.

BHMA Knape & Vogt products follow the ANSI testing standards established by BHMA.