Tapcon 3183407V2

Tapcon Concrete Anchor Screws User Manual

Model: 3183407V2

1. Introduction

This manual provides comprehensive instructions for the proper use, installation, and maintenance of Tapcon 1/4" x 1-1/4" Star Torx Head Concrete Anchor Screws. These anchors are designed for secure fastening in various masonry materials, including concrete, block, and brick. Please read this manual thoroughly before beginning any installation to ensure safe and effective use.

2. Product Overview

Tapcon anchors are masonry screws featuring Advanced Threadform Technology, which allows them to cut threads directly into masonry materials. They are suitable for a wide range of applications, from securing shelving brackets and HVAC strapping to installing door frames and plywood backer boards. These anchors are also approved for use in ACQ treated lumber.

2.1 Key Features

- **Advanced Threadform Technology:** Cuts threads into concrete, block, and brick for a secure hold.
- **Versatile Application:** Ideal for electrical equipment, HVAC strapping, 2x4 lumber, wood headers, window frames, jambs & sills, door frames to masonry, plywood backer boards, and exterior installations.
- **ACQ Treated Lumber Approved:** Safe for use with treated wood.
- **Torx Head:** Provides strong torque transfer and reduces cam-out during installation.
- **Underhead Ribs:** Designed to resist head snaps and spin-outs, enhancing reliability.
- **Long-life Climaseal™ Coating:** Offers 720 hours of corrosion resistance for lasting quality.

2.2 Product Components



Figure 2.1: Two Tapcon concrete anchor screws, showcasing their distinct blue coating and threaded design.



Figure 2.2: Detailed view of Tapcon screw features, highlighting the underhead ribs for resisting head snaps and spin-outs, and the star recess for eliminating bit slip.

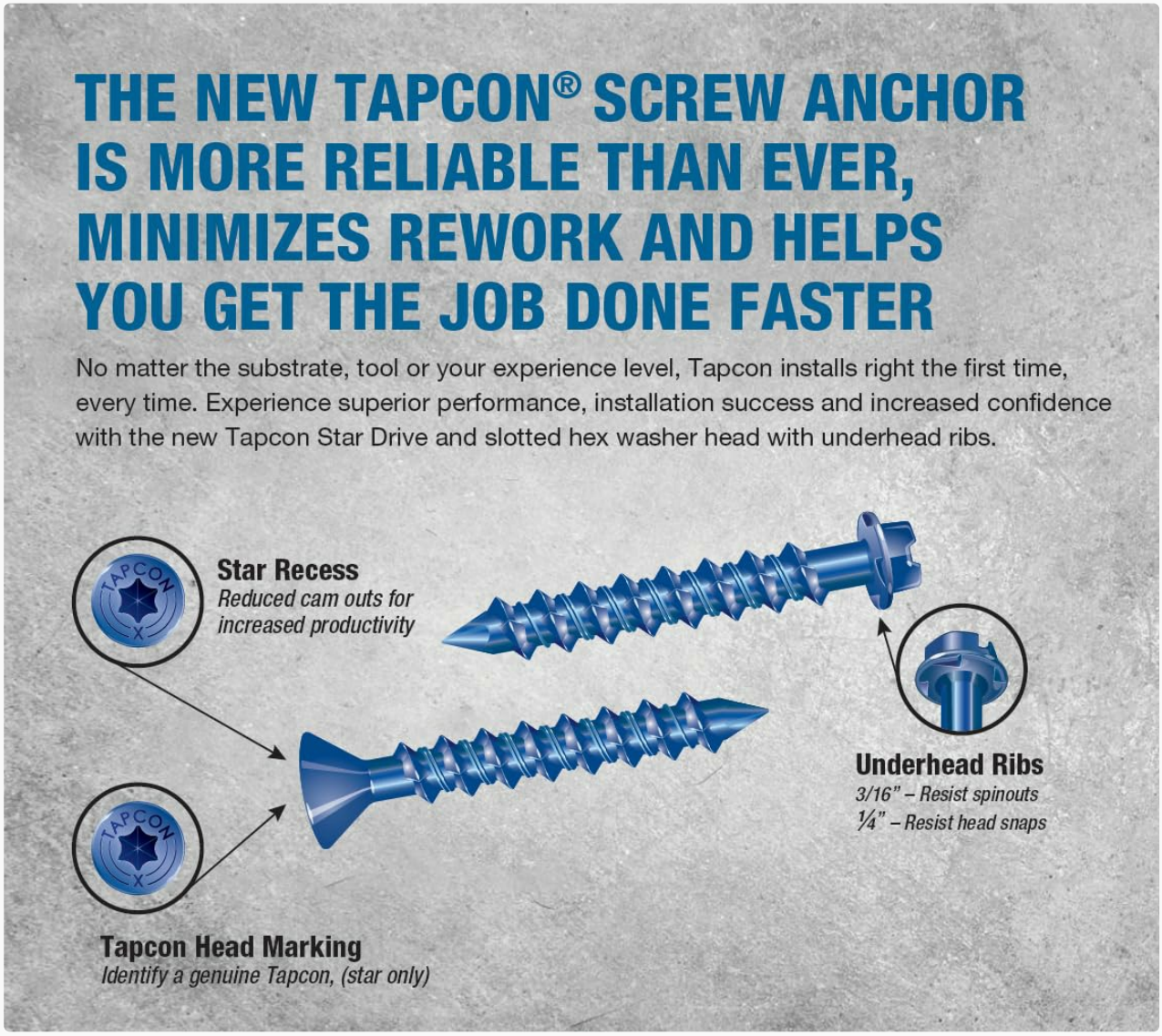
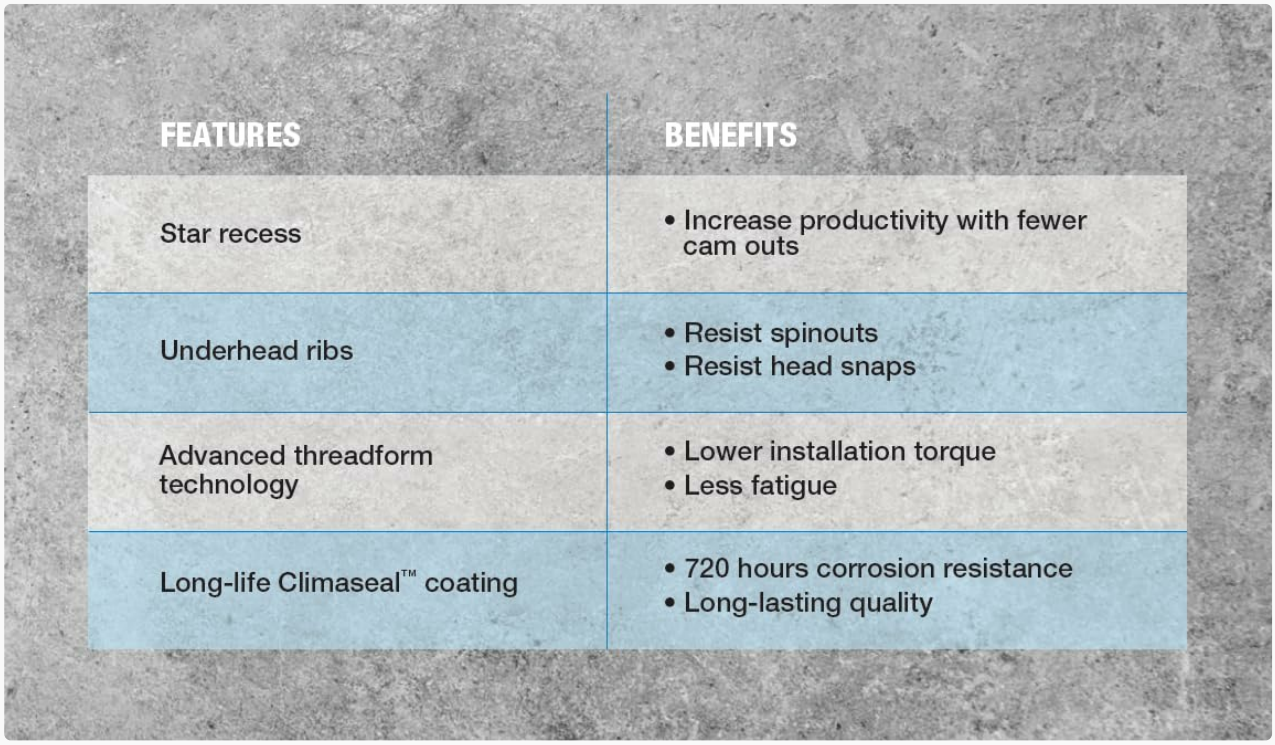


Figure 2.3: Illustration of the new Tapcon screw anchor, emphasizing the Star Recess for reduced cam-outs and Underhead Ribs for resisting spin-outs and head snaps. Also shows the Tapcon Head Marking for identification.



FEATURES	BENEFITS
Star recess	• Increase productivity with fewer cam outs
Underhead ribs	• Resist spinouts • Resist head snaps
Advanced threadform technology	• Lower installation torque • Less fatigue
Long-life Climaseal™ coating	• 720 hours corrosion resistance • Long-lasting quality

Figure 2.4: A table outlining the features of Tapcon screws (Star recess, Underhead ribs, Advanced threadform technology,

Long-life Climaseal™ coating) and their corresponding benefits (increased productivity, resistance to spin-outs/head snaps, lower installation torque, long-lasting quality).

3. Installation Instructions

Proper installation is crucial for the performance and safety of Tapcon concrete anchors. Follow these steps carefully.

3.1 Safety Precautions

- Always wear ANSI Z87.1-2003 compliant eye protection with side shields to prevent serious personal injury.
- Ensure the correct drill bit is used for the specific Tapcon anchor size. Using the wrong drill bit will affect performance values and may cause failure.
- Consult local building codes and regulations before installation.

3.2 Required Tools

- Hammer drill (recommended for masonry)
- Correct diameter Tapcon drill bit (included with some packs)
- Torx driver bit (compatible with the screw head)
- Measuring tape
- Marker or pencil

3.3 Installation Steps

1. **Select Proper Fastener:** Determine the appropriate diameter, head style, and length of the Tapcon anchor based on the fixture thickness and desired anchor embedment.
2. **Drill Hole:**
    a. For 3/16" diameter Tapcon anchors, use a 5/32" diameter Tapcon bit.
    b. For 1/4" diameter Tapcon anchors, use a 3/16" diameter Tapcon bit.
    c. Drill the hole a minimum of 1/4" deeper than the anchor embedment to allow for displaced material.
    d. Minimum anchor embedment: 1". Maximum anchor embedment: 1-3/4".
3. **Clear Debris:** Thoroughly clean the drilled hole of all dust and debris using a brush or compressed air.
4. **Drive Anchor:** Insert the Tapcon anchor into the pre-drilled hole. Using a Torx driver bit, drive the screw until the head is flush with the surface of the material being fastened. Do not over-tighten.

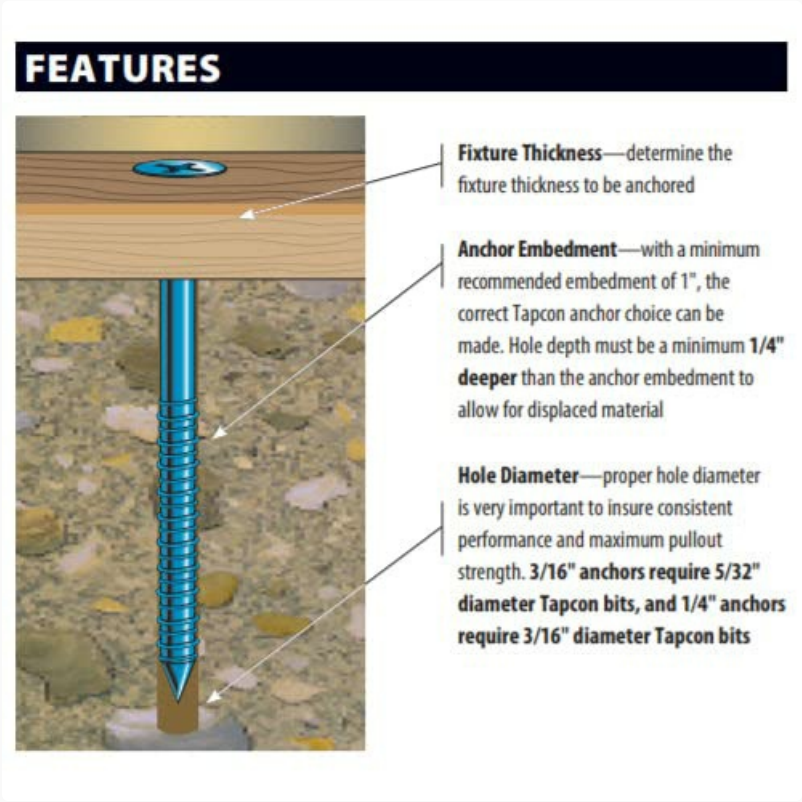


Figure 3.1: An illustration detailing key measurements for proper installation, including fixture thickness, anchor embedment (minimum 1"), and recommended hole diameter for 3/16" and 1/4" anchors.

1. **Select proper fastener – diameter / head style / length.**
   a) **Use selection chart to choose proper length.**
2. **Drill Hole – use selection chart to determine drill bit length and depth of hole.**
   a) **Use 5⁄32" diameter Tapcon bit for 3⁄16" dia. Tapcon Anchor. Use 3⁄16" diameter Tapcon bit for 1⁄4" dia. Tapcon Anchor.**
   b) **Drill hole minimum 1⁄4" deeper than Tapcon Anchor to be embedded.**
   Minimum anchor embedment: 1"
   Maximum anchor embedment: 1¾"
3. **Drive Anchor.**

WARNING: Failure to wear safety glasses with side shields can result in serious personal injury. Always wear ANSI compliant eye protection (ANSI Z87.1-2003).

WARNING: Using the wrong size drill bit will affect performance values and may cause failure.

Head Styles

3/16" diameter has a 1/4" slotted hex washer head (HWH)
1/4" diameter has a 5/16" slotted hex washer head (HWH)



3/16" diameter uses a #2 phillips flat head (PFH)
1/4" diameter uses a #3 phillips flat head (PFH)



Figure 3.2: Visual guide to installation steps, emphasizing the importance of selecting the correct fastener, drilling the proper

hole, and driving the anchor. Includes critical safety warnings regarding eye protection and correct drill bit usage. Also shows common head styles: slotted hex washer head and Phillips flat head.

3.4 Common Applications

Tapcon anchors are highly versatile and can be used in numerous scenarios:

- Electrical equipment mounting
- HVAC strapping
- Securing 2x4 lumber
- Wood headers
- Window frames, jambs & sills
- Door frames to masonry
- Plywood backer boards to masonry
- Exterior installations
- Furring strips
- Drywall track
- Concrete forms

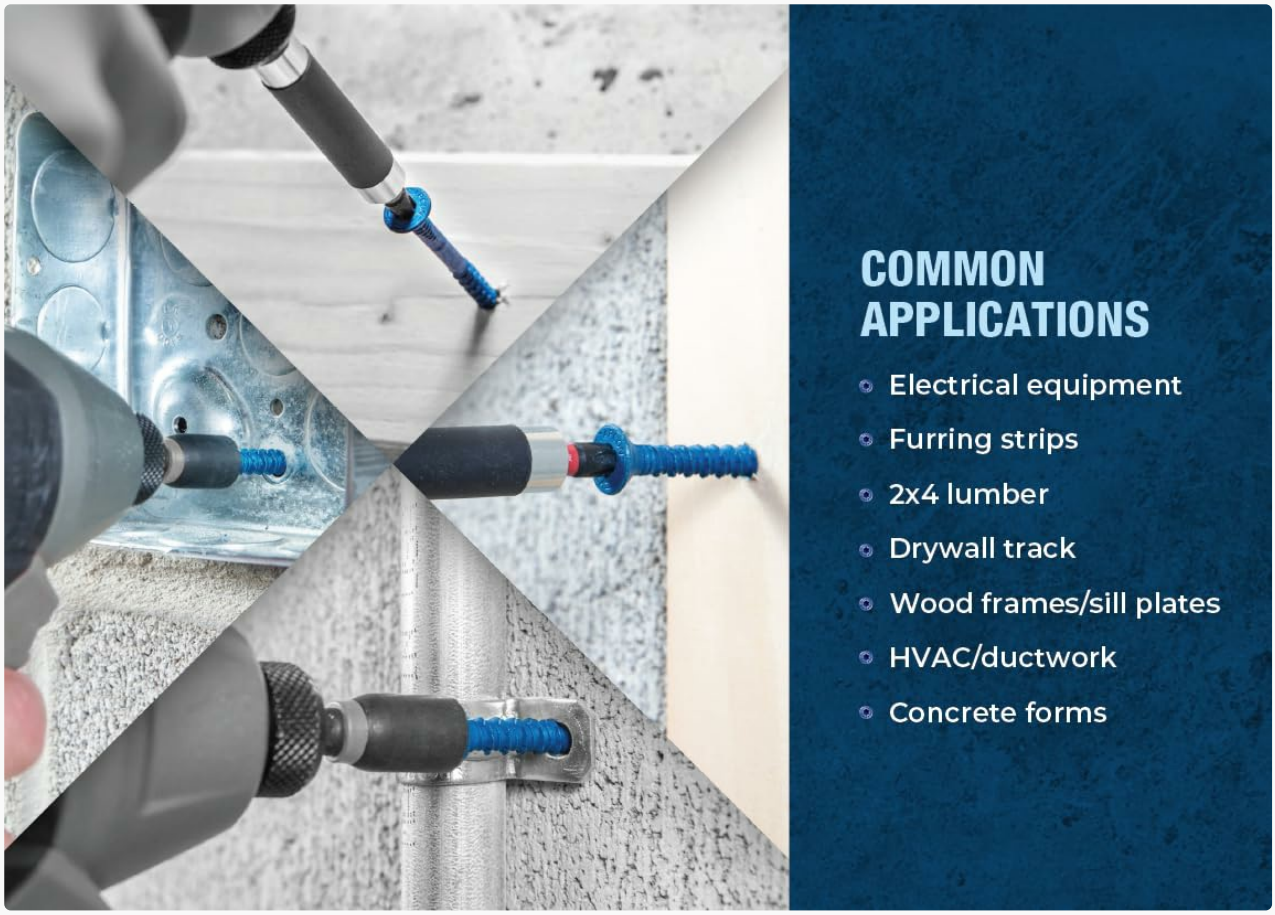


Figure 3.3: A visual representation of common applications for Tapcon screws, including fastening into electrical boxes, furring strips, 2x4 lumber, and concrete forms.

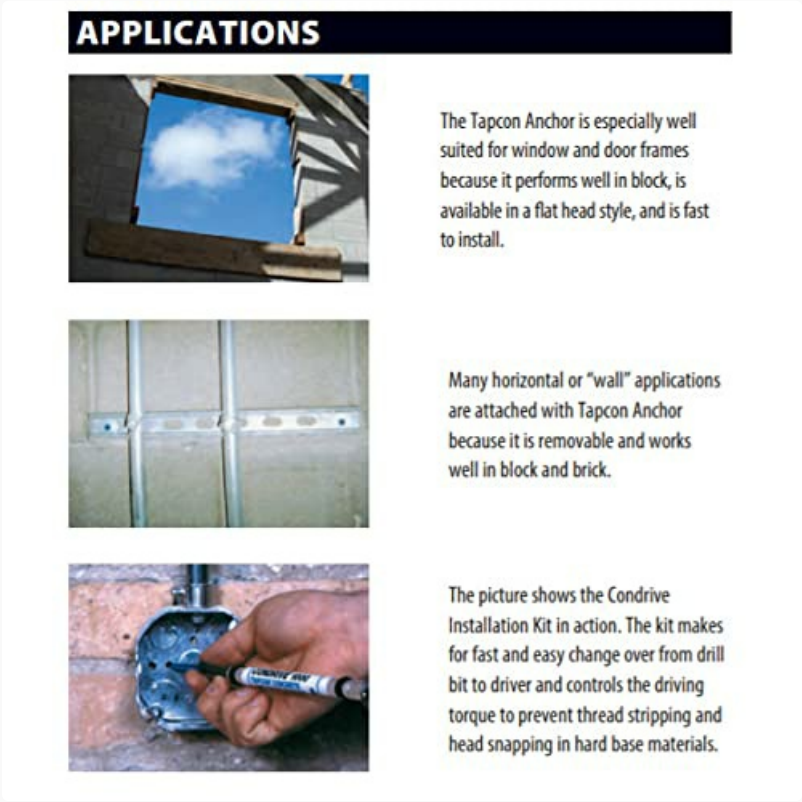


Figure 3.4: Examples of Tapcon anchor applications, such as securing window and door frames, horizontal wall applications, and demonstrating the Condrive Installation Kit for efficient driving.

4. Maintenance

Tapcon concrete anchors are designed for long-term, maintenance-free performance once properly installed. Regular inspection of the fastened material for any signs of wear or loosening is recommended, especially in high-stress or outdoor environments. No specific maintenance is required for the anchors themselves.

5. Troubleshooting

While Tapcon anchors are highly reliable, issues can occasionally arise during installation. Here are some common troubleshooting tips:

- **Screw not driving fully:** Ensure the drilled hole is clean and free of debris. Verify that the correct drill bit size was used and the hole depth is sufficient (at least 1/4" deeper than embedment).
- **Screw head stripping (cam-out):** Use the correct Torx driver bit and apply firm, consistent pressure while driving. The star recess design is intended to minimize this issue.
- **Screw breaking:** This is rare with Tapcon anchors due to their robust design. Ensure you are not over-tightening and that the material being fastened is appropriate for the anchor.
- **Anchor not holding:** Re-check the hole diameter and depth. Ensure the material is solid masonry (concrete, block, brick) and not crumbling or excessively soft.

If problems persist, consult a professional or contact Tapcon customer support.

6. Specifications

Attribute	Value

Attribute	Value
Product Dimensions	4 x 4 x 3 inches; 1 Pounds
Item Model Number	3183407V2
Date First Available	May 28, 2021
Manufacturer	ITW
ASIN	B096426T75
Material	Carbon Steel
Drive System	Torx
Head Style	Flat
Item Dimensions L x W x H	4 x 4 x 3 inches
Thread Size	1/4" x 1-1/4"



Figure 6.1: Overview of Tapcon Anchors, specified for anchorage into concrete, brick, or block. Highlights advantages such as working in all masonry materials, fast installation, no hole spotting or inserts required, removability, extended corrosion protection, and ACQ treated wood compatibility.

7. Warranty and Support

Specific warranty information for Tapcon 1/4" x 1-1/4" Star Torx Head Concrete Anchor Screws is not provided in the product details. For any warranty claims, technical support, or further inquiries, please contact the manufacturer,

ITW, directly or refer to their official website for the most up-to-date information.

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