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HILTI HDA-P M10 x 100/20

Hilti HDA-P M10 x 100/20 Undercut Anchor System Instruction Manual

Model: HDA-P M10 x 100/20 | Brand: HILTI

1. INTRODUCTION

This instruction manual provides essential information for the safe and effective installation and use of the Hilti HDA-P M10 x 100/20 Undercut Anchor System. Please read this manual thoroughly before installation and retain it for future reference. Adherence to these instructions is crucial for ensuring the anchor's performance and safety.

1.1 Safety Information

- Always wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and hearing protection.
- Ensure the base material is suitable for the anchor type.
- Follow all local building codes and regulations.
- Do not exceed the specified load capacities for the anchor.
- Consult a qualified engineer for critical applications or if unsure about installation procedures.

2. PRODUCT OVERVIEW

The Hilti HDA-P M10 x 100/20 is an undercut anchor designed for reliable fastening in cracked and uncracked concrete. It features a zinc-plated steel bolt (strength 8.8 grade) suitable for indoor, dry conditions. The undercut design provides a positive mechanical interlock with the base material, ensuring high performance.



Figure 1: Hilti HDA-P M10 x 100/20 Undercut Anchor. This image displays the full length of a zinc-plated steel undercut anchor, showing the expansion cone at one end and the threaded bolt with a protective cap at the other. The Hilti branding and model number are visible on the anchor body.

2.1 Components

- **Anchor Body:** The main cylindrical component that houses the expansion mechanism.

- **Expansion Cone:** Located at the bottom of the anchor, responsible for creating the undercut.
- **Threaded Bolt:** The M10 bolt for attaching the fixture.
- **Nut and Washer:** (Typically supplied separately or with the fixture) for securing the fixture.

3. SETUP AND INSTALLATION

Proper installation is critical for the performance of the HDA-P undercut anchor. Follow these steps carefully.

3.1 Required Tools and Materials

- Rotary hammer drill
- Correct diameter drill bit (12 mm for baseplate clearance hole)
- Hilti HDA-P setting tool (specific to anchor size)
- Wire brush and blow-out pump/compressed air for hole cleaning
- Torque wrench
- Personal Protective Equipment (PPE)

3.2 Installation Steps

1. **Drill Hole:** Using a rotary hammer drill and the specified drill bit, drill a hole to the required depth in the concrete base material. Ensure the hole is perpendicular to the surface.
2. **Clean Hole:** Thoroughly clean the drilled hole using a wire brush and a blow-out pump or compressed air. Repeat this process until no dust or debris remains. A clean hole is essential for proper anchor performance.
3. **Insert Anchor:** Insert the HDA-P anchor into the cleaned hole. The anchor should fit snugly.
4. **Set Anchor:** Use the Hilti HDA-P setting tool. Place the setting tool over the anchor and strike it with a hammer until the anchor is fully set. This action creates the undercut in the concrete, providing the mechanical interlock. Refer to the setting tool's instructions for specific details.
5. **Attach Fixture:** Position the fixture over the threaded bolt of the set anchor. Secure it with the appropriate nut and washer.
6. **Apply Torque:** Tighten the nut to the specified torque value using a calibrated torque wrench. Over-tightening or under-tightening can compromise the anchor's performance.

4. OPERATING INSTRUCTIONS

Once installed, the HDA-P anchor functions as a permanent fastening point. "Operating" primarily refers to ensuring the fixture remains securely attached and the anchor performs as intended under load.

- **Load Application:** Apply loads only after the anchor is fully set and the fixture is securely tightened to the specified torque.
- **Load Limits:** Never exceed the published allowable load capacities for the HDA-P M10 anchor in the specific base material and conditions. Overloading can lead to anchor failure.
- **Dynamic Loads:** For applications involving dynamic or fatigue loads, consult Hilti technical data or a structural engineer.

5. MAINTENANCE

The HDA-P anchor is designed for long-term performance with minimal maintenance. However, periodic inspection is recommended, especially in critical applications or corrosive environments.

- **Visual Inspection:** Periodically inspect the anchor and surrounding concrete for any signs of damage, corrosion, cracking, or movement.
- **Torque Check:** If deemed necessary by a qualified professional, check the torque of the nut using a calibrated torque wrench. Do not re-tighten unless specified by Hilti guidelines or an engineer.
- **Environmental Conditions:** Ensure the anchor remains in indoor, dry conditions as specified. Exposure to moisture or corrosive agents not intended for this anchor type can lead to premature failure.

6. TROUBLESHOOTING

This section addresses common issues that may arise during or after installation.

Problem	Possible Cause	Solution
Anchor does not set properly.	Incorrect drill hole depth or diameter; insufficient hole cleaning; improper setting tool use.	Verify drill bit size and depth. Re-clean hole thoroughly. Ensure correct HDA-P setting tool is used and struck firmly. If anchor is damaged, remove and install a new one in a new location.
Anchor feels loose after setting.	Base material too weak or damaged; incorrect installation procedure.	Do not load. Remove the anchor and inspect the hole. If base material is compromised, move to a new location or use a different fastening solution. Re-install carefully following all steps.
Nut cannot be tightened to specified torque.	Damaged threads on bolt or nut; anchor not fully set.	Inspect threads. If damaged, replace the nut or anchor. Ensure the anchor is fully set before applying final torque.

7. SPECIFICATIONS

Key technical specifications for the Hilti HDA-P M10 x 100/20 Undercut Anchor System.

Model: HDA-P M10 x 100/20

Anchor Size: M10

Max. Fixture Thickness (standard embedment depth): 13/16 in (20 mm)

Baseplate Clearance Hole: 12 mm

Base Materials: Concrete (cracked), Concrete (uncracked)

Environmental Conditions: Indoor, dry conditions

Material Composition (Bolt): Steel, strength 8.8 grade, zinc-plated (min. 5 µm)

Fastener Type: Bolt

Head Style: Flat

Finish Type: Zinc

Item Weight: 1 Pound

8. WARRANTY INFORMATION

Hilti products are manufactured to high-quality standards. For specific warranty details pertaining to the HDA-P M10 x 100/20 Undercut Anchor System, please refer to the official Hilti warranty documentation provided with your purchase or visit the official Hilti website. Warranty terms and conditions may vary by region.

9. CUSTOMER SUPPORT

For technical assistance, product inquiries, or support regarding the Hilti HDA-P M10 x 100/20 Undercut Anchor System, please contact Hilti customer service. Contact information can typically be found on the official Hilti website or on your product packaging.

Online Resources: www.hilti.com