

# HRC 555 Headed Bars for Welding Applications

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TECH NOTE

## Introduction:

This document has been prepared to showcase how HRC 555 Headed Bars can be used for welded applications – such as shear studs, embed plate anchorage, welded dowels, etc. **Welding specifications are beyond the scope of this tech note and to be determined by others as they depend on material, location and other requirements.**

## Background:

### Replace Standard Hooks

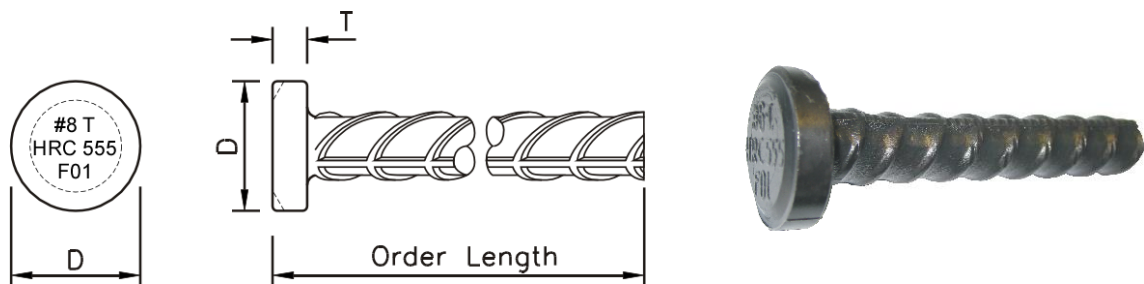
For structural, practical or economical reasons the HRC 555 Headed Bars are your problem solver. They allow you to simplify rebar details, reduce congestion, improve concrete consolidation, and lower the in-place costs compared to conventional methods.

### Maximize Use of Larger Bar Sizes

Since large standard hooks are being replaced with HRC 555 Headed Bars you can design and build efficiently, using fewer, larger bar sizes.

### Building Code Compliant

According to ACI 318, the HRC 555 Headed Bars have the shortest required development length compared to standard hooks or straight bars. HRC 555 Headed Bars are compliant with ACI 318-19 section 25.4.4, ACI 318-14 section 25.4.4, ACI 318-11 section 12.6 and ASTM A970 Class HA requirements.



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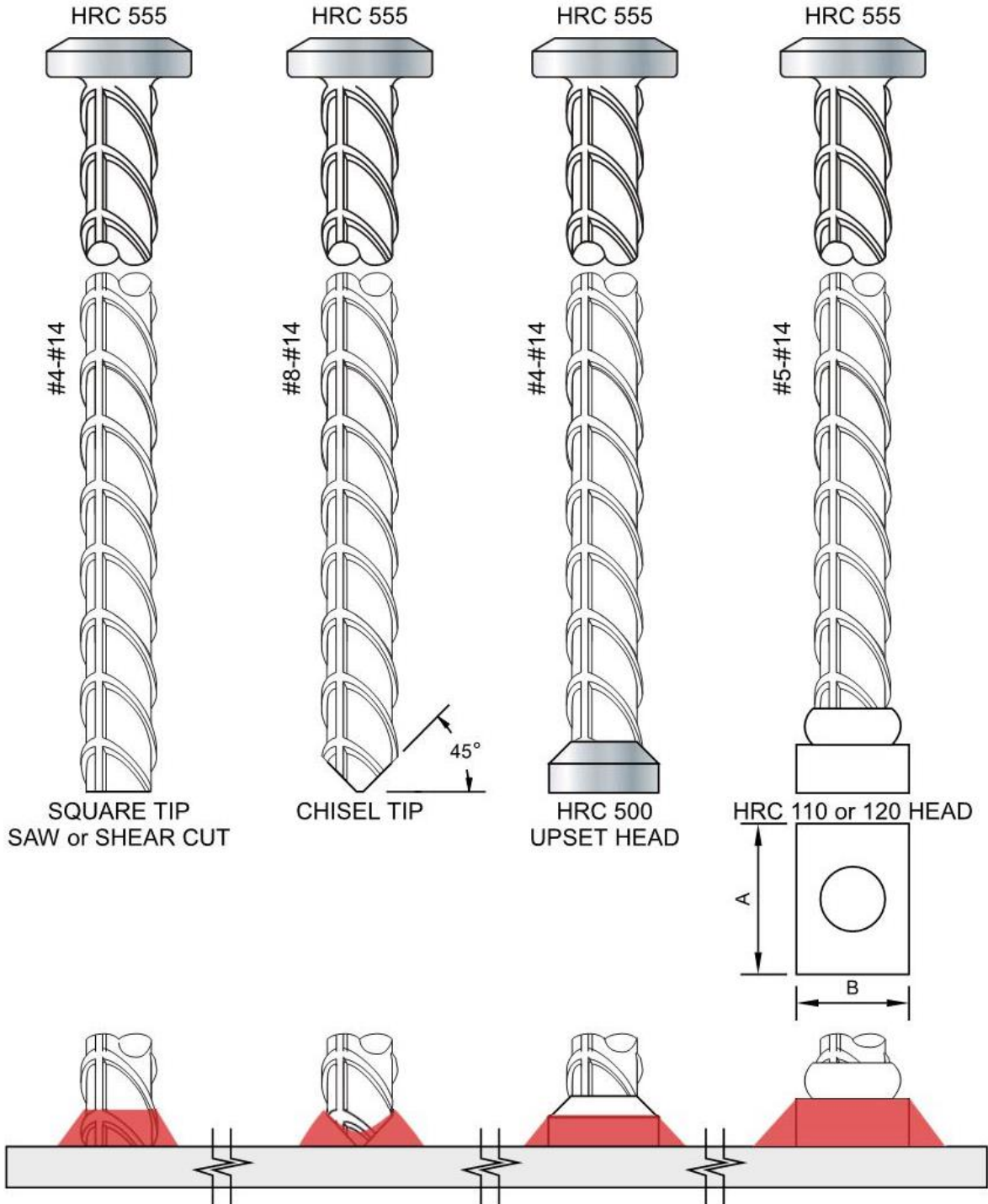
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## Weldable End Configurations:

HRC 555 Headed Bars are available in a number of end configurations to match your specific welding application - square tip, chisel tip, HRC 500 upset end, and HRC 110 or 120 T-Head.



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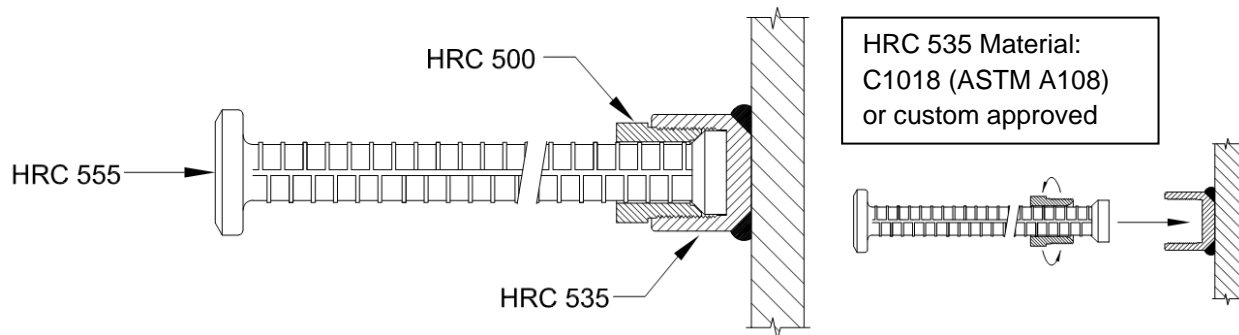
TECH NOTE

If the design requires an HRC 555 Headed Bar to be welded to a steel member, but construction operations require a weldable coupler to be installed first and the headed bar to be installed later, there are 2 options to help facilitate this:

**Option A** – The headed bar assembly has a 555 Head on one end and a 500 upset head + 500 coupler /535 threaded, weldable half-coupler on the other end.

Installation notes:

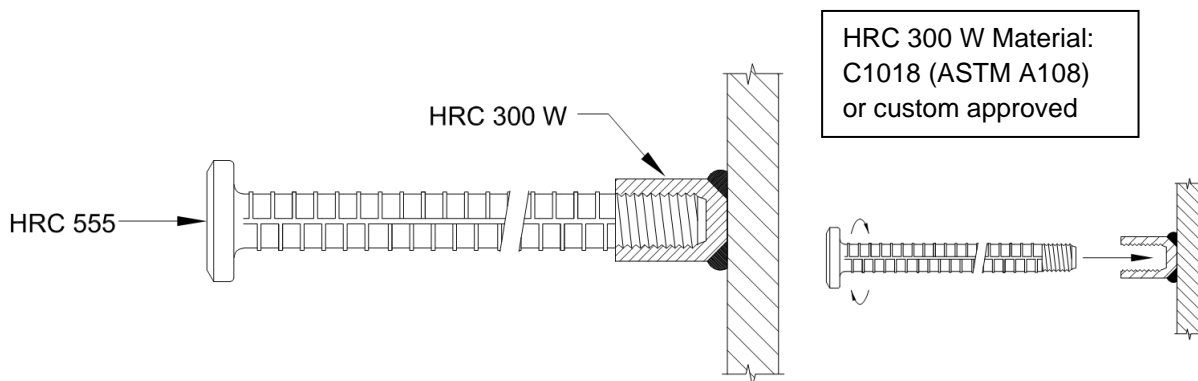
1. HRC 535 structural connector will be welded to steel member.
2. HRC 555 Headed Bar with 500 coupler will be threaded into HRC 535 welded structural connector.



**Option B** – The headed bar assembly has a 555 Head on one end and a 300 thread + 300 W threaded, weldable half-coupler on the other end.

Installation notes:

1. HRC 300 structural connector will be welded to steel member.
2. HRC 555 Headed Bar with HRC 300 male thread will be threaded into HRC 300 W weldable half-coupler.



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## Common Applications:

Here are examples of common applications.



[Steel plate anchorage](#)



[Dowels at steel beam/lintel](#)

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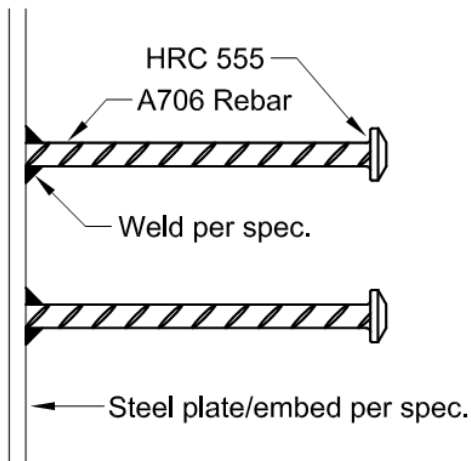
TECH NOTE



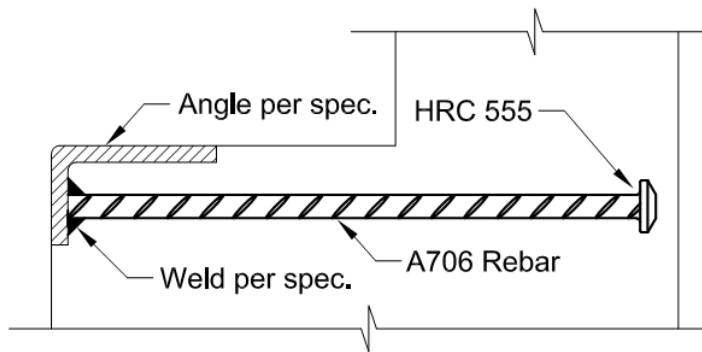
[Pile anchorage \(welded to pile\)](#)



[Pile anchorage \(with head plate\)](#)



STEEL PLATE/EMBED ANCHORAGE



CORBEL ANGLE ANCHORAGE

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## **Materials:**

When HRC 555 Headed Bars are welded directly to a steel member, A706 Grade 60 reinforcing bars are used.

When HRC 555 Headed Bars are welded to a steel member using an HRC 100 series head, the head (plate) is manufactured using C1018 (ASTM A108) or A572-50 (ASTM A576).

When weldable couplers are welded to a steel member to allow for installation of an HRC 555 Headed Bar at a later time, the couplers are manufactured using C1018 (ASTM A108).

**\*\*Note: Weldable couplers can be made out of any material that is required by the welding application/specification and properties, like the weld bevel, can be modified to suit the welding application/specification.**

## **Warning:**

*HRC products are designed to meet and exceed the standards referenced in this document, but individual project specifications and quality control requirements apply. HRC destructively tensile tests finished products daily as part of our quality control, but cannot be responsible for material furnished by local fabricators and/or contractors using HRC related equipment or components. Aspects of structural design, evaluation of product fitness for use, suitability or similar attributes are the responsibility of others.*