

Mechanical Couplers – Codes & Requirements



V2 3/16/21

This document has been prepared to provide a brief summary of codes and requirements for mechanical couplers. This information is not to be used in place of the actual documents they represent, but rather to provide a reference to the appropriate documents.

CODE	REQUIREMENTS
<p>ACI 318-08, ACI 318-11, ACI 318-14, ACI 318-19</p> <p><i>Building Code Requirements for Structural Concrete & Commentary</i></p>	<p>Type 1 Mechanical Splice</p> <ul style="list-style-type: none"> Develop in tension or compression, as required, at least 125% f_y (specified yield strength) of the spliced bars. <p>Type 2 Mechanical Splice</p> <ul style="list-style-type: none"> Develop in tension or compression, as required, at least 125% f_y (specified yield strength) of the spliced bars. Develop the specified tensile strength of the spliced bars.
<p>Caltrans Standard Specifications</p> <p><i>Section 52-6 SPLICING</i></p> <p>Caltrans Acceptance Criteria for Mechanical Couplers on ASTM A706 and A615 Reinforcing Steel</p>	<p>Service Splice</p> <ul style="list-style-type: none"> Develop a minimum tensile strength of 80,000 psi independently of where the failure occurs. Must meet total slip requirements. <p>Ultimate Butt Splice</p> <ul style="list-style-type: none"> Length of coupler must be less than 10db. Must meet total slip requirements. Fail in the reinforcing bar but outside the affected zone, provided that the sample splice has visible necking or fail anywhere provided that the sample splice has achieved the strain requirement for necking. When tested in conformance with the requirements in California Test 670, "Necking (Option I)," the visible necking shall be such that there is a visible decrease in the sample's cross-sectional area at the point of fracture. When tested in conformance with the requirements in California Test 670, "Necking (Option II)," the strain requirement for necking shall be such that the largest measured strain is not less than 6 percent for No. 11 and larger bars, or not less than 9 percent for No. 10 and smaller bars.
<p>ICC Evaluation Service AC133</p> <p><i>Acceptance Criteria for Mechanical Splice Systems for Reinforcing Bars</i></p>	<p><i>In addition to Type 1 and Type 2 requirements defined in ACI 318,</i></p> <p>Type 2 Mechanical Splice</p> <ul style="list-style-type: none"> Meet residual splice requirements.

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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.