

ASTM C595 and C1157

Recent Changes

NCC Fall Meeting 2009

ASTM C1157- Standard Performance Specification for Hydraulic Cements

- ❑ NO restrictions on composition
 - ❑ Provides for most latitude/flexibility in attaining performance w/o prescription
 - ❑ Not readily referenced or accepted by DOTs
 - ❑ Permitted in several other specifications
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ASTM C1157- Standard Performance Specification for Hydraulic Cements

- True Performance Specification:
 - GU, HE, MS, HS, MH, LH and Optional R
 - Strengths comparable to C150 and C595
 - Early Strength less restricted for MS, HS, LH
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ASTM C1157- Standard Performance Specification for Hydraulic Cements

- Performance and Soundness:
 - Soundness (Autoclave, Internal Sulfate) same limits as ASTM C150
 - Set Time
 - Heat of Hydration same as ASTM C150
 - Sulfate Resistance and ASR Mitigation
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ASTM C595- Standard Specification for Blended Hydraulic Cements

- 2 Major revisions in the past 8 years
 - Nomenclature Changes
 - 2005
 - I-S (25-70), I-SM (<25), S (>70), I-P (25-40), I-PM (<15), P (25-40 no early strength limits)
 - 2007
 - I-S and I-P with defined (%)
 - 2009
 - Binary and Ternary Cements (I-S/I-P and I-T)
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ASTM C595- Standard Specification for Blended Hydraulic Cements

- Nomenclature provides more information to the user...Ternary Blended Cement with 20% slag cement and 15% Pozzolan is known as a I-T (S20) (P15)
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ASTM C595- Standard Specification for Blended Hydraulic Cements

- Same Performance criteria based on %'ages
 - Early Strength-Lesser restricted for MH, LH, HS
 - Soundness (Autoclave and Internal Sulfate) same as C150 cements
 - Heat of Hydration same as C150
 - ASR Resistance and Sulfate Resistance table limits
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ASTM C595- Standard Specification for Blended Hydraulic Cements

- This specification provides for better utilization of materials, prediction of performance
 - Provides for Transparency for the User with respect to material composition
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