



600 S. Cherry Street
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July 13, 2026

Update on Sulfate-Resistant Cement Testing and Classification - Effective August 2026

Dear Valued Customer,

The industry is implementing an important update to how Portland-Limestone Cements (PLC / Type IL) are tested and classified for sulfate resistance. This change will go into effect in **August 2026**, and we want to ensure you understand what it means for your mix designs and project specifications.

What is changing?

Currently, PLC/IL cements are classified as **No Designation, MS (Moderate Sulfate Resistant)** or **HS (High Sulfate Resistant)** based on **ASTM C1012** expansion testing. In August 2026, we will transition to using **ASTM C452** as the designated test method for determining MS/HS classification for these cements per ASTM C595 and AASHTO M 240.

This shift aligns with ongoing efforts to update ASTM and AASHTO standards to allow sulfate resistance designations based on more efficient testing while maintaining performance integrity.

GCC Type IL(10) Cements Will Be Classified as HS (High Sulfate Resistant)

We have already completed the necessary testing under the new approach, and all GCC **PLC/IL cements will be classified as HS – High Sulfate Resistant** under the ASTM C595 / AASHTO M 240 method.

- Your concrete mixes, using straight cement (no additional pozzolan required) can now meet:
- **S1, S2, S3 Option 2**
- **S3 Option 1** When paired with appropriate pozzolan selections that do not need to be separately evaluated under ASTM C1012 for sulfate resistance in these options, will meet this criteria as GCC Type IL cements will be designated as HS.

This means:

- You can simplify SCM selection



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- You have more flexibility in mix designs while still meeting sulfate exposure requirements.
- You can rely on GCC HS-classified PLC/IL cements as a baseline for high sulfate resistance without additional C1012 validation.

Please confirm with your project specifications, as some DOTs or owners may still reference C1012 explicitly. In those cases, we can provide supporting data and work with your team to ensure compliance.

Timeline and Implementation

- **Before August 2026:** All current documentation, mill reports, and certificates will continue to reference ASTM C1012 as the test method.
- **Starting August 2026:** New mill reports and product documentation will indicate HS (High Sulfate Resistance) classification based on ASTM C452.

There is no change in the actual performance or chemistry of our cements; this is a change in the **test method used to assign the MS/HS designation**, not a change in product quality.

We Are Here to Support You

Our Technical Service Team is available to:

- Review your current sulfate-resistant mix designs.
- Provide updated mill reports, test data, and documentation for submittals.
- Work with your engineers, QC teams, and specifiers to ensure seamless adoption of this change.

Thank you for your continued partnership. We are confident that this transition will provide you with greater flexibility, simplified mix design options, and continued high performance sulfate resistance in your concrete products.

Please let us know if we can be of further assistance.

Sincerely,

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Attachment: American Cement Association, ACA Information Sheet IS793, March 2026

Sulfate Resistance of Type IL Cements

ASTM C595 and AASHTO M 240 have required the optional sulfate resistance designations for blended cements to be determined on the basis of the 6-to-12-month ASTM C1012 mortar bar expansion test. However, this test was developed to evaluate combinations of cementitious materials that include SCMs, rather than portland cements or portland-limestone cements on their own, because SCMs typically require more time to fully react in cementitious systems. The 14-day ASTM C452 mortar bar expansion test was first published in 1960. ASTM C150 and AASHTO M 85 specify an optional requirement for Type V cements (high-sulfate resistant) with a 0.040% maximum expansion limit in ASTM C452. Recent studies comparing the two test methods confirm that ASTM C1012 is a more severe test, to the point that some Type V portland cements could not meet the expansion limit for the high sulfate resistance designation in C595 and M 240,¹ and that ASTM C452 is appropriate for evaluating the sulfate resistance of Type IL cements.² For these reasons, sulfate resistance designations for Type IL cements will be primarily determined on the basis of ASTM C452 testing. A similar change was made to CSA A3001 in 2023.

With the approved 2026 revisions, Type IL cements will be designated moderate (MS) and high (HS) sulfate resistance designations based on meeting the following ASTM C452 expansion criteria:

- IL(MS) – 14-day expansion of 0.050% or less
- IL(HS) – 14-day expansion of 0.035% or less

If the cement does not meet ASTM C452 expansion limits, C595 and M 240 will permit the producer to qualify the cement using ASTM C1012 test results. When evaluating blended cements and concrete binder systems that contain pozzolans or slag cement, ASTM C1012 is still required.

Note that all changes described in this information sheet do not take effect until published by ASTM or AASHTO, unless explicitly agreed to be the customer.

For more information, contact ACA's Director, Product Standards & Technology, **Eric Giannini** (legiannini@cement.org).

¹ Gagatek, D.; and Hooton, R.D., "Assessing Performance of Sulfate-Resistant Portland Cements," ACI Materials Journal, Vol. 116, No. 6, November 2019, pages 227 to 233. <https://doi.org/10.14359/51718056>

² Giannini, Eric R.; and Niemuth, Mark, Performance of Portland and Portland-Limestone Cements in ASTM C452 and ASTM C1012 Testing, SN3355, Portland Cement Association, Washington, DC, USA, 2025, 27 pages. <https://doi.org/10.70909/pca.2025.SN3355>

³ ACI PRC-232.2-18, Report on the Use of Fly Ash in Concrete, American Concrete Institute, Farmington Hills, MI, 2018.

⁴ ACI PRC-232.1-12, Report on the Use of Raw or Processed Natural Pozzolans in Concrete, American Concrete Institute, Farmington Hills, MI, 2012.