



ASTM International Standards Supporting Sustainable Concrete Construction

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The Standards Developed

- ASTM MoU Program provides a full collection of ASTM International standards to its signatories for reference, adoption or use as the basis of a national standard.
- As a MoU partner ZABS is able to adopt ASTM standards.
- Four ASTM International standards
 - Two address better practices for water use, notably recycled water at the site (C1602, C1603)
 - Two address recycled industrial materials in concrete production (C1697, C1798)





How the Standards Help

- Zambia's National Construction Council obliges ZABS to identify standards for the construction industry
 - C1697 (aggregates) allows use of local materials:
 - Economic efficiency
 - Standard ensures that quality is maintained
 - Result: inexpensive, plentiful, accessible, easily transportable concrete





How the Standards Help

- C1603 (water) permits use of recycled waste water
 - Water's source impacts its qualities
 - Water's properties greatly affect strength and durability of the final product
 - Use of water with some impurities (solids) disturbs concrete's cohesion and adhesion properties.
 - Standard was adopted to determine the impurities (solids) in the water
 - Knowledge ensures industry uses quality raw materials

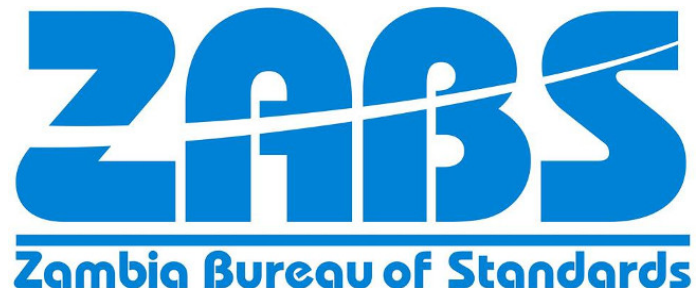


Lessons Learned

- Authority's requirement for standards:
 - Supports the authority's objective
 - Limits substandard works in a growing construction industry
 - Checks the quality of raw materials used
 - Promotes the recycling of materials used in construction
 - Reduces the number of landfills, preserving the environment (land and water bodies).
 - Encourages sustainable communities/cities with a reduced environmental pollution



Thank you!



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