

SPECIFICATIONS: IS THERE NEED FOR CHANGE?

By **W.S. (Wib) Langley**
Contributing Writer

Specifications for construction have been in place for centuries. The Chinese used specifications for the quality of stone and stonework for the Great Wall. Stone-laid streets in Iraq were placed under strict specifications.

The British Standard BS 5760: Part 4 defines a specification as a means of communicating in writing the requirements or intentions of one party to another in relation to a product, service, material, procedure or test. The form in which this communication occurs is not specified.

There are two principle methods by which a specification may be written — firstly, as a prescriptive specification whereby the specification details the materials that must be used and, to a certain extent, the methods or procedures required to achieve an end result; secondly, the performance specification in which the performance level of the completed project is defined in measurable quantities. Many authorities have endorsed a hybrid specification such as end result.

A performance specification states requirements in terms of the required results with criteria for verifying compliance but without stating the procedure or work method for achieving the

required results. This specification defines the functional requirements, the environment in which it must operate and interface with other characteristics or components.

Prescription specifications have been used for centuries; thus, why is there need for change? Prescription specifications are often not sufficient enough and are ambiguous. Many of the stated requirements are not well defined and left to interpretation in the field by individuals whom may not be qualified to deal with them. We live in a litigious society and prescriptive specifications often lead to litigation. Many of the nation's structures are in a state of disrepair. These structures are generally less than 40 years of age. The prescriptive specifications have simply not worked in the best interest of the owner. The prescriptive specification limits the ingenuity of the builder and limits proprietary solutions.

The performance specification will generally provide a wide range of solutions and provide good practice at the most economical price. Risk is transferred to the constructor who is best equipped to manage them. A common problem stated with respect to performance is how to measure performance criteria. The criteria must be verifiable. At the outset, the owner must determine the criteria to be used as a basis for acceptance of the completed work. The stated criteria must be readily measurable by means of existing methods and standards suited to the quantity being measured. Sufficient measurements must be made to be statistically significant and they must be made on a timely basis.

The criteria for measurement in performance specifications for verification of conformance to the stated requirements should be identical to the parameters that were used to qualify the structure characteristics. For instance, if an owner requires a structure that will provide a service life of 100 years (which is reasonably obtainable using today's technology), then the measure of how well the constructor met the requirements would be based on how well the standard test results met the values used in design. For long-term service life, the significant factors may be reinforcement, diffusivity of corrosive ions, cracking, use of proper materials, and construction details.

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APRMCA Briefs

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- TCA's Tilt-Up Convention 2005 Atlanta, Georgia, October 12-15.
- CRMCA Semi-Annual Meeting, Calgary, AB, October 21-22.
- APRMCA Annual General Meeting & Convention, Jamaica, details TBA, February 12-18, 2006.

Congratulations and Best Wishes from APRMCA to:


- Patricia Reddick, APRMCA's administrative assistant, for her spirit and endurance in successfully qualifying for and completing the 109th Boston Marathon. Reddick finished her first Boston Marathon, April 18, with a net time of 4:08:19.
- Gary Pyke with NS-TPW, on becoming president of the American Concrete Institute (ACI) - Atlantic Chapter at its AGM, February 4. He succeeds Neil MacNeill.
- Paul Frank, MRAIC, with John K. Dobbs and Associates Inc. on becoming president of the Nova Scotia Architects Association.
- James Lightfoot, Concrete for Homes, and Lana Wiles who were married on January 19 in the Dominican Republic.
- Shane MacDow, with Pinnacle Agencies/Master Builders, and Susie Baxter who were married on April 28 in Cuba.
- Bob Taylor on his retirement, December 17, 2004, from Casey Concrete Ltd., Truro, NS. He served the company in many capacities during his 16-year career, most prominently as the Truro-Milford plant manager, and served several years as APRMCA's representative on the NSCSA board.
- Logan Shaw on being promoted to the position of manager for Casey Concrete Ltd., Truro & Milford, NS. With 22 years of experience, Shaw will oversee 25 staff and operations for ready mix, pre-cast and masonry products distribution.
- Peter MacGillivray on becoming GM of Coastal Bulk Transport Ltd., Dartmouth, NS, taking over from Ray Sharpe who retired in 2004.
- Shaw Construction Material Group (SCMG) on holding its successful, well-attended ProductEXPO in Halifax, February 2. Its three divisions combined to bring product seminars and a showcase of product exhibitors to the local construction industry.
- CAC-Atlantic, Bill Dooley, P.Eng., and Colin Dickson, P.Eng. on the overwhelming success of CAC's national Sustainable Construction Roadshow 2004 in Halifax, NS, November 4. An unexpected profit was disbursed in the form of grants to the newly formed Canadian Green Building Council (CaGBC)-Atlantic Chapter, and as seed money for a sustainability (recycling) research project under the direction of Dr. John Newhook, P.Eng., from Dalhousie University's Department of Engineering, CADCAM Centre.
- Arrow Construction Products Limited for bringing its Construction Solutions supplier showcase and seminars to Halifax on April 19.
- The Association of Canadian Industries Recycling Coal Ash (CIRCA) for hosting a seminar series on "Responsible Use of SCMs in Performance-Based Specifications" in Fredericton, NB, March 30. APRMCA was an event sponsor.

Condolences:


Deepest sympathies are extended to the family and friends of Norman Herman "Akie" Akerlund, 90, who passed away, March 21, 2005. He owned and operated Akerlund Construction Services and enjoyed a career in construction product sales from the 1930s to the mid 1990s. Akerlund was well known to the concrete industry for introducing and gaining acceptance of the first generation of super-plasticizing admixtures.

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