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## **FOR IMMEDIATE RELEASE**

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# **CIB Publishes Tenets of Reliable Roofing**

**By Walt Rossiter**

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“Owners expect a leak free roof for the building life, although unfortunately the industry isn’t always confident that it can provide such a system.” This bold statement straightforwardly asserts the reasoning and motivation that gave rise to the recently issued CIB Report No. 405 titled “Improving Roof Reliability.” CIB’s Working Commission W83 on Roofing Materials and Systems developed the report. CIB is the French acronym for the organization’s former name, “Conseil International du Bâtiment” (in English: International Council for Building). The full name is now International Council for Research and Innovation in Building and Construction. With over 5000 members worldwide, CIB is an international organization located in the Netherlands (See [www.cibworld.nl/](http://www.cibworld.nl/)) dedicated to the promotion of sound building practices through activities such as technical information exchange, sponsorship of symposia, delivery of practicable recommendations, and development of research publications. A major benefit for its members is networking on an international scale with peer subject matter experts.

Working Commission W83 has 40 members with focused expertise on the performance of roofing. They reside in more than 15 countries and represent research organizations, academia, A/E design and consulting firms, roofing consultant and contractor associations, and system manufacturers. The last W83 meeting was held in Anaheim, California, in conjunction with the 2017 RCI International Convention and Trade Show. RCI UK member, Keith Roberts of Roberts Consulting Limited, is the W83 chair. He was the chief architect who drafted Report 405.

The purpose of this article is to provide the listing of the tenets of reliable roofing given in the report. In the mid-2000s, W83 discussions on roofing performance and means to improve it broached the lamentable situation that call backs after completion of roofing projects due to leaks occurred far too often worldwide. The members tossed around many reasons for this observation, and as they did so, the conversations focused on the concept that roof design and construction processes were not always reliable. Continued discussions on this point led to initiating a worldwide state-of-the-art report on the reliability of roofing systems. The result was CIB Report No. 405. Its purpose was to identify on a global basis actions and priorities that can improve the reliability of roofing systems. In moving forward, it was important that all members were in agreement with a definition of reliability. One was taken from British Standard BS 5760, “Reliability of Constructed or Manufactured Products, Systems, Equipment and Components, Part 0: Introductory Guide to Reliability,” which defined reliability as “the ability of an item to perform a required function under stated conditions for a stated period of time.” A companion definition was “the number of failures over a given period.” No matter the definition, the members well acknowledged that knowing the potential causes of failure, to the extent possible, was a prerequisite to preventing them.

The focal point of CIB Report No. 405 is a section on the tenets of reliable roofing. A number of complementary sections provide background describing reasons for developing the tenets. These include discussions of present-day roofing issues that would be positively impacted if practitioners were to follow the recommendations represented by the tenets. In developing the report, W83 self-imposed a sensible directive. The tenets needed to be in summary form so that prospective users would not be overwhelmed with a verbosity obscuring their usefulness. Consistent with this directive, the tenets along with some brief supporting information occupy two pages of text. Thus, when printed back to back, they fit on a one page.

Based on reviews of published reports, advisory papers, and experience of its members, W83 recommended 12 tenets of reliable roofing, as follows:

1. Retain and disseminate knowledge base
2. Prepare contract documentation
3. Adopt positive drainage
4. Introduce element redundancy
5. Co-ordinate details
6. Ensure adequate resources
7. Substitute with care
8. Manage effectively throughout the project
9. Engage competent applicators
10. Inspect and test
11. Plan maintenance
12. Learn from experience

Observe that the list does not contain any new recommendations or concepts to those knowledgeable practitioners who strive to achieve successful roofing projects. In W83's words, the tenets "are a set of commands that promote best practice." The report further describes that "Taken on their own, each tenet could be considered to be simplistic and no more than common sense. However, when they are considered as a whole, they can make a contribution to promoting good practice in the design, construction, and maintenance of roofing systems. The underlying importance of training and experience is common to all of the tenets." Note also from the above listing that the 12 tenets are provided according to the design, construction, and maintenance sequence for a typical roofing project. This was intentional with the hope that practitioners might better keep the 12 tenets in mind as they work through the various steps in a given project.

It was stated above that, as published in CIB Report 405, each tenet is accompanied by brief supporting information. To provide a flavor of the supporting information, the following two paragraphs reprint the complete tenets for no. 5, Co-ordinate Details, and 9, Engage Competent Applicators. Note their brevity:

- Co-ordinate Details -- A significant number of roof call backs are a result of flaws in the detailing of the roof, from design to installation. Careful attention should be given to the detailing by adopting standard details that are simple, practical and robust. On complex roofs and on large roofs with significant repetition, the construction of a full scale mock-up in advance is helpful for checking that the details can actually be built and for seeking improvements.
- Engage Competent Applicators -- Roofing failures are reduced where there are established training schemes for roofing tradesmen supported by organized roofing trade federations. Applicators should have experience in the chosen roofing system.

Because an international assembly of subject matter experts under the auspices of the CIB directed the development of the tenets, Report 405 publishes the tenets in ten languages including English. The other nine languages—representing the first language of many W83 members—are French, Portuguese, Spanish, German, Danish, Japanese, Korean, Hebrew, and Italian. The availability of the tenets in these languages should promote their dissemination, acceptability, usefulness, and value to roofing practitioners around the globe.

CIB Report 405 may be accessed at [http://site.cibworld.nl/dl/publications/pub\\_405](http://site.cibworld.nl/dl/publications/pub_405). Readers are advised that the report, and in particular the tenets of reliable roofing, is considered to be a living document that is subject to updating as experience with the tenets develops in the future.

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