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Book Review
Quality Management in Construction by Brian Thorpe and Peter Sumner

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"The quality will remain, when the price is forgotten." (Henry Royce)

Since the second edition of this book (then entitled "Quality Assurance in Construction") was published in 1996, a lot has changed in the world of quality management. This is reason enough for the two authors, Brian Thorpe and Peter Sumner, to publish a new edition. The book "Quality Management in Construction" is composed of 14 chapters, which are spread over 216 pages.

The first chapters can be understood as an introduction to the topics of quality and quality standards. Apart from explaining the main concepts and the need to comply with quality on construction sites, the authors describe and analyze the history of quality standards in the construction industry from the 1960s until today. The ISO 9001, an international standard for a common quality system, which is not limited to the construction industry, is emphasized. With the requirements of ISO 9001 as a foundation, it is shown how a Quality Management System (QMS) can be adopted in construction. In general, for each separate construction project a special document, the so-called Project Quality Plan (PQP), must be worked out. This plan defines the processes, responsibilities and interfaces of a project team. The sum of these plans, accompanied by additional general documents and considerations, then forms the Quality Management System of a construction company. Thereby, one focus of the book is the establishment and implementation of such a system, which is clearly explained by means of examples, check lists and "action plans".

The subject of project management and the creation of a Project Quality Plan are subsequently explained, along with some key drivers pertaining to the quality such as the market situation. A company wants to stand out from a competitor with a competitive advantage. In addition, focusing on quality from the beginning may reduce costs and re-work during a production process. However, legal issues can lead to the implementation of a quality management system as well. In the UK, these legal issues are compiled as the "Construction Design and Management Regulations" (CDM Regulations). These provide a legal framework with which a construction contractor must work. This framework and its impact on quality management systems are addressed next. The discussion of several

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examples in this chapter, such as the whole Project Quality Plan and supplementary documents like work instructions, supplier lists, questionnaires and checklists, are very useful. Nevertheless, Thorpe & Sumner recognize the limitations of a Project Quality Plan and introduce appropriate countermeasures.

The last third of the book contains further information essential for working with a Quality Management System. This includes conducting audits and management reviews, as well as the certification of the QMS and its improvement. It's not worthwhile to just create a QM system; the system must undergo regular checks and maintenance. This is done with the help of internal and external audits, as well as continuous improvement. A certification by a recognized third-party body could be helpful for external recognition of the QMS and to get a better market share.

The book concludes with a critical review of the current practice and an outlook toward the future with Integrated Management Systems. The need for an open communication culture in the project team (no blame culture), the integration of management's commitment and activities in the fields of health, safety and environment are highlighted. The authors give much practical advice from their professional experiences, such as to sometimes look behind predefined checklists, because these lists have most likely been prepared for standard situations and not for all possibilities.

The book contains many abbreviations, which makes it rather difficult to read the text at times. Almost every other sentence features a shortened form of an expression. Although all abbreviations are listed in a separate directory, a disclaimer would have been desirable here.

The quality beyond the limits of ISO 9001 is hardly taken into account. Areas of Lean Production, such as "Continuous Improvement", are addressed only minimally. Those who really want to read about quality methods specifically for "Lean Construction" or "Lean Production" should resort to other literature. On the other hand, the ISO 9001 standard defines only minimum requirements for a process-driven quality management system and is so flexible that different methods can be integrated into it. Therefore, one can certainly use "Quality Management in Construction" as a base, from which the user can set up a specific system, including methods pertaining to Lean Construction.

Particularly noteworthy is that the book contains many practical examples, case studies and checklists. This makes it especially valuable for those working with these systems, as they are supplied with important aids and suggestions for their daily work. In the chapter "Establishing a QMS", the authors present 22 "action plans", which can be used as templates for the establishment of an own Quality Management System.

"Quality Management in Construction" is predominantly based on the ISO 9001 guidelines from 2000. In 2012, the ISO members agreed to update this quality standard; this update was issued in 2015. The new standard now consists of 10 chapters concerning the high-level structure (previously: eight chapters) and enables the PDCA cycle (Plan-Do-Check-Act). In this regard, a new edition of "Quality Management in Construction", considering the changes to the ISO standard and incorporating more tools from Lean Construction, is highly recommended.

References

Thorpe, Brian and Peter Sumner (2004): Quality Management in Construction. The leading construction series, Gower Publishing, Hants/UK.