

COUNTERFEIT, FRAUDULENT AND SUB-STANDARD MATERIALS: THE CASE OF STEEL IN NORWAY

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1 BACKGROUND

The international construction industry is subject to several types of crime. Among the least researched is the exposure to counterfeited, fraudulent and sub-standard (CFS) materials. The study presented in this paper examines the presence of these materials in the Norwegian construction industry and the characteristics of the construction industry that render it vulnerable. Bertelsen and Koskela (2002) conceptualize production from three views: transformation, flow and value generation (TFV), with the crucial contribution from the theory being “it's attention to modelling, designing, controlling and improving production from all these three points of view”. Counterfeit, fraudulent or sub-standard (CFS) products threaten the whole production process, undermining all three elements alike. Engebø et al. (2016) points out that counterfeit materials can threaten lean delivery of projects, and uses assorted steel products as an example. The essential features of counterfeit, sub-standard or fraudulent (CFS) steel products in Norway are though not fully explored. Equally, in the international research literature, little can be found concerning such products. Simultaneously, there are examples of both unethical and unlawful conduct in the Norwegian construction industry (Lohne et al., 2017).

2 RESEARCH AIM AND METHODOLOGY

This article will examine the presence of CFS steel products in the Norwegian construction industry. The research questions addressed are the following:

- 1) Do CFS steel products exist in the Norwegian construction industry?
- 2) Which key characteristics of the construction industry make it especially vulnerable to these materials?

Because steel products are under an extensive control regime, it is here defined that a breach with the CE marking (compulsory for steel construction products), implies that a product can be CFS. Because of that, the CE regime and the legislations around steel products are investigated in this article. The analysis is limited to load-bearing steel products.

In order to investigate the research questions, a literature review related to steel, certificates and laws in the construction industry, a survey on CFS materials, and three semi-structured interviews were carried out. Additionally, a literature review on the characteristics of the construction industry was conducted.

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After the literature review on characteristics – limited to research articles on the construction industry – a survey was conducted with different stakeholders in the industry. The survey questions were based on interviews previously done by the Construction Industry Institute (CII) (Minchin et al. 2014). The questions specifically targeted routines for quality control, and experiences with “fake materials”, which in this case was used to describe CFS materials. Although the survey did not specifically target steel, it provided valuable information about the phenomena in general. The survey was done as an online questionnaire, and was sent out to stakeholders in the industry in two rounds. In total, 20 respondents answered the survey.

Three semi-structured interviews with senior professionals within the Norwegian industry (producer, purchaser and non-governmental certification parties) were carried out to supplement the findings in the survey. A common interview guide was developed and sent to the interviewees before the interviews. In addition to the questions listed in the interview guide, follow up questions were asked and other subjects were discussed when initiated by the interviewees, just as suggested by Yin (2013). Because of the nature of the topic researched, the interviewees have been anonymised in this article.

3 RESEARCH FINDINGS

From the interviews and the survey, there seems to be evidence for the existence of CFS steel products in the Norwegian construction industry. The survey also revealed that the respondents believe that the problems with “fake materials” are increasing. From the literature, three fundamental characteristics of the industry were mentioned. These were uniqueness, temporality and on-site production. According to the findings, it can be deduced that there are two important characteristics of the industry that render it vulnerable, the industry being accessible to temporary and dishonest actors, and a high degree of trust combined with a certain lack of control. It is easy to establish a company and join the industry, which is quite unique compared to other industries such as offshore or aviation. The temporary and dishonest actors can move between projects, close down business and start up again, and move over large distances and projects. The findings indicate that both the industry and the government have a high degree of trust in the certificates issued. It is not common to do material-testing on deliveries, instead a document control is preferred. Further work including more interviews with stakeholders in the industry can result in recommendations for countermeasures against the use of these materials. It would also be interesting to see if the same problems exist with other steel products and materials.

4 REFERENCES

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