FAILURES AND DEFECTS IN THE BUILDING PROCESS – APPLYING THE BOW-TIE APPROACH - DTU Orbit (10/01/2019)

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Function failures, defects, mistakes and poor communication are major problems for the construction sector. A Danish research project focusing on failures and defects in building processes has been carried out over the last 2 years. As the empirical element in the research, a large construction site was observed from the very start to the very end and all failures and defects of a certain size were recorded and analysed. The methodological approach used in this analysis was the bow-tie model from the area of safety research. It combines critical-event analysis for both causes and effects with event-tree analysis. The paper describes this analytical approach as an introduction to a new concept for understanding failures and defects in construction. Analysing the many critical events in the building process with the bow-tie model visualises the complexity of causes. This visualisation offers the possibility for a much more direct and focused discussion of what needs doing, by whom and when – not only to avoid the number of defects in the final product, but also to make the building process flow much better and reduce the need for damage control.

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