

## Safety issues related to 3D concrete printing

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It imperative to acknowledge the enhanced safety for construction workers that 3D concrete printing offers. The reduced presence of workers on-site inherently translates to fewer accidents and fatalities, underscoring the favorable statistical correlation [1]. Interviews conducted by Adaloudis et al. [2] with industry professionals in 3D printed buildings highlighted that while accidents during construction automation might still occur, they tend to result in comparatively less severe injuries than traditional construction incidents. The paradigm extends to offsite printing, where an even safer environment is envisaged due to a reduction of work-at-height tasks and meticulous control over the production setting [3]. Job displacement concerns are equally noteworthy. While additive construction may entail a reduction in manual labor jobs, Alami et al. [4] posit that this shift is more of a job displacement rather than a net loss. This transformation is rooted in technology's demand for fewer but more specialized and well-compensated skilled workers. Furthermore, the social sustainability of additive construction is not solely confined to the workforce dynamics. Notably, 3D printed construction projects often manifest cleaner and quieter worksites, serving the well-being of the surrounding neighborhoods [5]. Moreover, additive construction's potential for quicker and more cost-effective building processes contributes to social sustainability. These advancements lead to content clients and a satisfied general populace, ultimately contributing to improved housing solutions and overall well-being within communities [6].

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