

IKEA Valladolid: Reusing an Interior All-Glass Façade

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Abstract

In 2023 a major refurbishment of the IKEA store in Valladolid (Spain) was executed, resulting in the obsolescence of an all-glass interior façade. Rather than disposing of all the elements in this façade, a third of its glass and fixing elements were reused in a new one designed as a relocation of the original. Therefore, an improvement on the Global Warming Potential (GWP) of the new façade was achieved. The original interior facade, designed and built by Arup & Bellapart in 2011, was 40m long and 10.6m tall. It consisted of 40 laminated glass panels (10.10 1.52SG) about 4000x2600mm supported by 9 glass fins (10.10.10.10 1.52 SG) 550mm wide and 10.6m long. During its service time, four panels were already removed from it in order to allow for a new entrance at the centre of the façade. The reduced dimensions of the new façade (20m long) as well as the presence of an entrance limited the number of panels that could be reused to only 16 out of 38. On the other hand, the glass fins could not be reused due to their state of conservation. The salvaged glass was, then, a third of the original one. Nonetheless, the amount of reused glass in the new façade amounts to 84%. In this paper, an assessment on the GWP of the production and construction of the new façade (modules A1 to A5 according to EN 15978) is presented, resulting in a 53% reduction on the GWP thanks to the reuse. This assessment is based on Bellapart's records (the entity in charge of the salvaging of the original panels and the building of the new façade), by using the Environmental Product Declaration (EPD) of each of the used products and, when unavailable, the assumed GWP based on suitable available EPD's and industry averages.

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Keywords

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