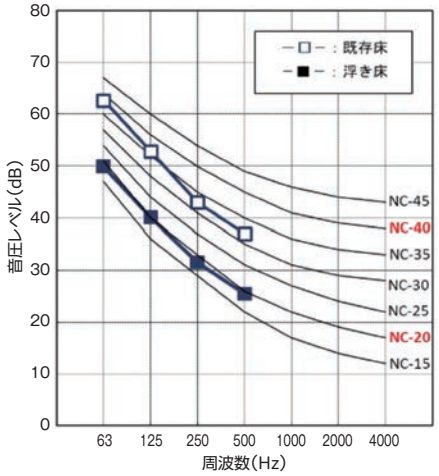
屋内歩行による屋外への放射音を低減させる防音乾式浮き床の可能性検討

Feasibility Study of Soundproofing Dry Floating Floors to Reduce Noise Radiating from Walking Indoors to Outdoors

玄 晴夫 Haruo Gen

ダイワ式防音乾式浮き床



ダイワ式防音乾式浮き床による効果

概　要

建物の開発や実施設計において,屋内歩行など床で発生する音が外壁から放射して屋外に漏れる影響を考慮することはこれまであまり行われていない。今回,児童発達支援施設に設けられたプレイルームで子供達が飛び跳ねや走り回る音が隣戸に聞こえて苦情になった事例に対して,当社が2023年に開発したダイワ式防音乾式浮き床の施工により,屋外放射音を低減させる可能性について検討を行った。防音乾式浮き床を施工することで低音域の63Hz帯域から中高音域まで一律12dB程度の低減効果がみられた。さらに外壁から屋外へ放射する音を騒音の評価尺度であるNC値で評価すると,対策前の床で足踏み加振を行った場合がNC-40であったのに対して,本防音乾式浮き床を施工することで,NC-20にまで低減した。その結果,屋外ではほぼ聞こえない程度に改善した。

Abstract

In building development and actual design, little consideration has been given to the effects of sound generated on the floor, such as indoor walking, radiating from the exterior wall, leaking outdoors. In this study, we investigated the possibility of reducing outdoor radiated sound by installing the Daiwa soundproofing dry-type floating floor, developed in 2023, in a playroom on the floor of a childcare facility where children's jumping and running noises were heard in neighboring houses, causing complaints. The installation of a soundproof dry-type floating floor reduced sound uniformly by about 12 dB from the low frequency range of 63 Hz to the mid-high frequency range. Furthermore, when the noise value radiated from the exterior wall to the outside was evaluated using the NC value, a measure of loudness, the value was reduced to NC-20 by installing this soundproof dry-type floating floor, while it was NC-40 when the floor was vibrated from stepping on it before the countermeasure was installed. As a result, the sound level improved to a point where it was almost inaudible outdoors.

関連するSDGs

Related SDGs