

・研究課題名 = 「Development of the recycling technology and its system of used gypsum boards」
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・要旨 = It was shown that in improving ground soil becoming main uses of used gypsum boards (recycled gypsum), physicochemical characteristics of soil materials as its component influences not only mechanical improvement of the function but also environmental security on elution of hazardous chemicals containing gypsum boards and generation of hydrogen sulfide. The patternizing of used gypsum boards was also shown through the facts that content of the fluorine content is different depending on the manufactured period and content ratio of many trace elements. A culture method using vial vessels was developed to judge the generation of hydrogen gas. It was shown that mechanical improvement with using recycled gypsum has been verified by in the proposed usage sites of the recycled gypsum by taking it and the functional materials like slaked lime or blast furnace slag cement in the proposed use sites and the improvement of soil has fulfilled the permissible level of subgrade bearing capacity for trafficability and so on. On the other hand leaching of fluorine is restrained below the elution criteria by formation of ettringite with using of it and blast furnace slag cement and coal ash. Generation of hydrogen sulfide gas has been strongly controlled by compaction or using together of slaked lime. The framework of technological and implementing standards has made in a whole process from discharge of used gypsum to use and to monitoring after using it.

・キーワード (5 語以内) = used gypsum boards, recycling technology, soil stabilization, fluorine, hydrogen sulfide