

## **Technology and development of odor evaluation method for indoor environment and building materials in China**

The odor evaluation of building indoor environment and materials plays an important role in improving the quality of human settlements, but the determination of odor-causing chemicals and their interaction mechanisms are complex, which makes it difficult to achieve accurate traceability of odors. This paper compares and analyzes the international odor evaluation methods for building indoor living environment and the odor-related certification system of building materials products, including odor intensity, odor concentration, odor pleasure, odor purification performance and other evaluation indicators. This paper summarizes the odor evaluation methods, sniffer screening methods and typical material odor classification standard systems of Chinese building interior materials such as GB/T 43353-2023, LY/T 3236-2020, T/CBMF 116-2021, T/CBMF 120-2021, etc. This paper fully analyzes the odor evaluation data of more than 400 indoor environmental air odor in residential buildings, office spaces, schools, etc., as well as the odor characteristics and odor-prone substances of nearly 1,000 typical high-environmental risk building materials products such as coatings, adhesives, wood-based panels and their products, and carpets in the Chinese market, and on this basis, draws the odor wheel diagram of typical indoor environments and products in China, which provides important data support for the rapid odor screening of indoor environment and materials. Based on the odor activity value method and the GC-O-MS method, a method system for tracing odor in human settlements and materials was proposed, and it was applied in typical national major projects and civil buildings in China.