

# SUMMARY

## I. Subject

Development of performance classification system on the reaction-to-fire for sandwich panel

## II. The objective of this research and development

The purpose of this project is to develop the classification systems of reaction-to-fire performance in sandwich panel structures used in several types of buildings.

## III. The contents and province of the research and development

Specific reaction-to-fire tests including ISO 5660-1, EN 13823 SBI, ISO 9705, and ISO 13784-1 which shall be represented as small-medium-large scale tests were made, and furthermore what the reasonable test method could be for the sandwich panel's fire safety was taken for consideration as well.

Especially, ISO 13784-1 (Room Corner Test for Sandwich panel building systems) method to supplement ISO 9705 Room corner test was mainly focused on for sandwich panel's fire performance as called "reaction-to-fire". In ISO 13784-1 tests, Several variables including heat release rate, smoke production rate, FIGRA(Fire Groth RAte), SMOGRA(SMOke Groth RAte), thermal configuration, visual check lists and so on, were analyzed for 23 cases' sandwich panel systems

Reaction-to-fire performances by ISO 13784-1 test results on each material were categorized for applying to the classification system of sandwich panel systems. Finally, elements for Classification system were suggested as like FIGRA and SMOGRA.