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MEASUREMENT OF SPECIFIC GRAVITY AND

CONCENTRATION OF SMOKE

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1. Preface

In order to discharge the smoke which is generated in the building on fire to the outside while maintaining the two layer flow of the smoke and air, it is necessary not only to know the buoyancy force acting to the smoke layer with respect to the air flow, but also to study the factors that disturb the two layer flow--such as cooling and falling of smoke by the ceiling and/or the wall and mixing of the smoke and air at their interface. For such purposes, it is essential to measure the specific weight of smoke.

This study is aimed at measuring the specific weight as the function of concentration and various temperatures of the smoke which has been generated from various materials under different combustion conditions, so that basic data for a smoke discharge plan can be obtained.