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.