Cone Calorimeter - T45G

Group Number Calculation (AS 5637.1)
Cone Calorimeter (AS/NZS 3837)

The Australian National Construction Code contains the deemed to satisfy requirements for fire in Volume 1 Specification 7. This requires a wall and ceiling lining to be tested to obtain a Group Number in accordance with AS 5637.1.

AS 5637.1 has two different methods for determining a Group Number; either directly from results achieved by AS/ISO 9705 (full scale room burn) or by prediction from results achieved from AS/NZS 3837.

In AS/NZS 3837, a 100mm x 100mm specimen is irradiated by a conical heater and the gasses evolved are ignited by a spark igniter. The products of combustion are collected in a flue and transported to an oxygen meter, which is used to assess the amount of oxygen used in the combustion process. From this plus other data collected by the apparatus, the Heat Release Rate of the product is calculated, and the amount of smoke evolved in the testing is also measured.

This test method is used to determine the ignitability, heat release rates, mass loss rates, effective heat of combustion, and smoke release of materials and products. This data is used to predict the Group Number in accordance with AS 5637.1.

There are restrictions on whether or not Group Numbers can be determined from AS/NZS 3837 results, dependent on the material type submitted. A Group Number cannot be determined from AS/NZS 3837 test results for:

- Reflective faced materials;
- Samples that melt or shrink away from the flame;
- Samples with profiled facings; or
- Samples with joints/openings

When testing composite products, for example fabric faced timber panels, all individual components and the assembly must be tested. The highest Group number assigned to any part of the assembly is determined to be the Group Number of the composite product.
Where allowable in accordance with AS 5637.1 we can issue a separate Group Number certificate, or we can email the raw data & a copy of the BCA spread sheet calculation for you to calculate the group number.

Sample size: 100mm x 100mm (Require 10 specimens)
Test code: T45G

Contact AWTA Product testing on: ☎ Phone: (03) 9371 2400 💻 Email: producttesting@awta.com.au