

Introduction

Fire protected ventilation ducts are tested in accordance with BS476: Part 24:1987. The standard also provides guidance on the performance of smoke outlet ducts and of kitchen extract duct applications.

Details of **VICUCLAD®** ventilation ducts and smoke outlet ducts that meet the integrity, insulation and stability criteria of the standard, are provided in the Promat Fire Protection Handbook.

In general, the approval authorities may accept that these specifications are also adequate for kitchen extract ducts - depending upon the location of the duct.

However, the guidance in the standard states that ducts lined with combustible materials, or that are coated internally with fats or grease - should additionally meet the insulation criteria on the *inner surface* of the duct, when the duct (Type A) is *within* the fire compartment, and exposed to *external* fire.

There may therefore be a concern that a fire in a compartment next to a kitchen could ignite grease that has built up within the duct, and thus cause a fire in the kitchen. If the approval authority feels this is a concern, the guidance given in BS 476: Part 24:1987 for kitchen extract ducts with combustible linings should be followed.

This is a more stringent condition than for the normal ventilation or smoke extract duct requirements, therefore the **VICUCLAD®** and mineral wool specification in Table 1 below should be used.

Installation

All joints between the **VICUCLAD®** boards and battens should be fully filled with **VICUBOND® WR** adhesive. Nails should also be used at nominal 300mm centres. Nails should be twice as long as the board thickness.

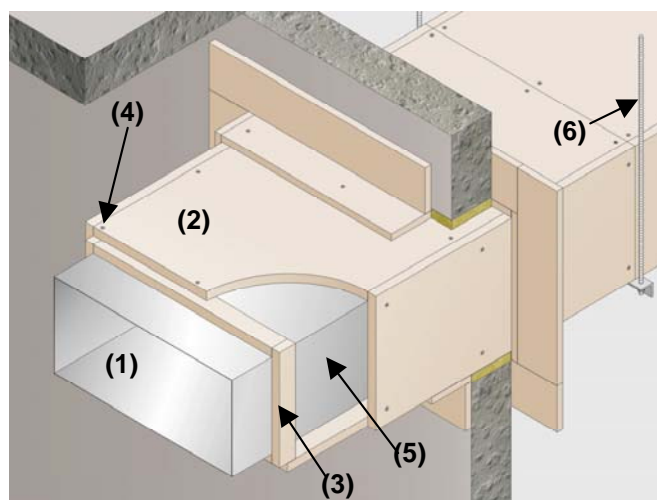
Adhesive extruded from joints should be removed by a cutting action to ensure a neat, clean job without spreading adhesive across the board surface.

In general, the width of a joint filled with adhesive should not exceed 3mm. Adhesive should also completely fill joints between **VICUCLAD®** and adjoining elements, unless a differential movement joint detail is to be incorporated.

Table 1

Fire Resistance Period	VICUCLAD® thickness	Mineral wool thickness
30 minutes	50mm	Not Required
60 minutes	50mm	60mm x 60kg/m ³
90 minutes	70mm	70mm x 80kg/m ³

Note: The maximum permissible duct depth with this method of construction is 900mm. The duct depth must not exceed the duct width. For larger ducts consult with Promat Technical Services Department.



- 1) Steel Duct.
- 2) **VICUCLAD®** board - secured following the installation guidance given above. Board thickness in accordance with Table 1.
- 3) **VICUCLAD®** spacer battens at 610mm centres bonded and nailed to each other. Batten thickness same as outer casing. Batten width twice thickness.
- 4) **VICUBOND® WR** adhesive with nails at nominal 300mm centres, fully fill all joints. Nail length twice board thickness.
- 5) Mineral wool fitted between the battens (omitted for clarity). Thickness according to Table 1.
- 6) The stress in unprotected hangers should not exceed 18 N/mm² for 30 minute ducts, 15 N/mm² for 60 minute ducts, and 10 N/mm² for 90 minute ducts.

AUTHORITY: WARRES Assessment report number: C80210

Technical Data Sheet – 007

Page 1 of 1
(July 2005)



Promat UK Limited
 Technical Service Department
 The Sterling Centre, Eastern Road
 Bracknell, Berkshire RG12 2TD
 Tel: 01344 381 400
 Fax: 01344 381 401
 E-mail: technicaluk@promat.co.uk

