

Reference No. FTL-22/44



**FACULTY OF ENGINEERING
CHULALONGKORN UNIVERSITY
FIRE TESTING LABORATORY**

TYPE OF TEST : DETERMINATION OF FIRE RESISTANCE OF NON-LOADBEARING ELEMENTS OF CONSTRUCTION

TEST SPECIMEN : **GYPWALL PARTITION**
The specimen is a partition wall with the width of 2.60 m and the height of 2.40 m. The wall consists of the base layer and the face layer with joint staggered 600 mm each layer and side. The base layer is 1/2" BPB Thai gypsum fire resistance plaster board applied parallel to each side of 62 mm steel stud spacing at 600 mm. Type S drywall screws spacing at 300 mm are used to connect the base layer with the stud. The face layer is 1/2" BPB Thai gypsum fire resistance plasterboard applied parallel to each side with 38 mm Type S drywall screws spacing at 300 mm. Details of the specimen are shown in Appendix A. The specimen was provided and installed to the testing frame by the client.

CLIENT : Thai Gypsum Products Pcl.

DATE OF TEST : 26 December 2001

TEST MACHINE : Large-scale furnace at the Fire Testing Laboratory, Department of Civil Engineering Chulalongkorn University. The furnace is capable of producing a standard temperature-time relationship according to several fire resistance standards including BS 476 Part 20: 1987.

TEST METHOD : Testing procedures follow the British Standard **BS 476: Fire tests on building materials and structures**

BS 476 Part 20: 1987 : Method for determination of the fire resistance of elements of construction (general principles).

BS 476 Part 22: 1987 : Methods for determination of the fire resistance of non-loadbearing elements of construction: Section 5; Determination of the fire resistance of partitions.

TEST RESULTS : The non-loadbearing element of construction described above has the fire resistance of each criterion for the period stated: (The test results are good only for the specimen tested.)

Criteria	Fire Resistance	Remarks
Insulation	133 minutes	Integrity failed.
Integrity	133 minutes	6 mm diameter gap gauge can penetrate through the gap in the middle of the specimen such that the end of the gauge projects into the furnace for a distance of at least 150 mm.

.....
(Associate Prof. Dr. Kongkaew Sittimannathum)
On behalf of Head of Civil Engineering Department



Date : January 11, 2002

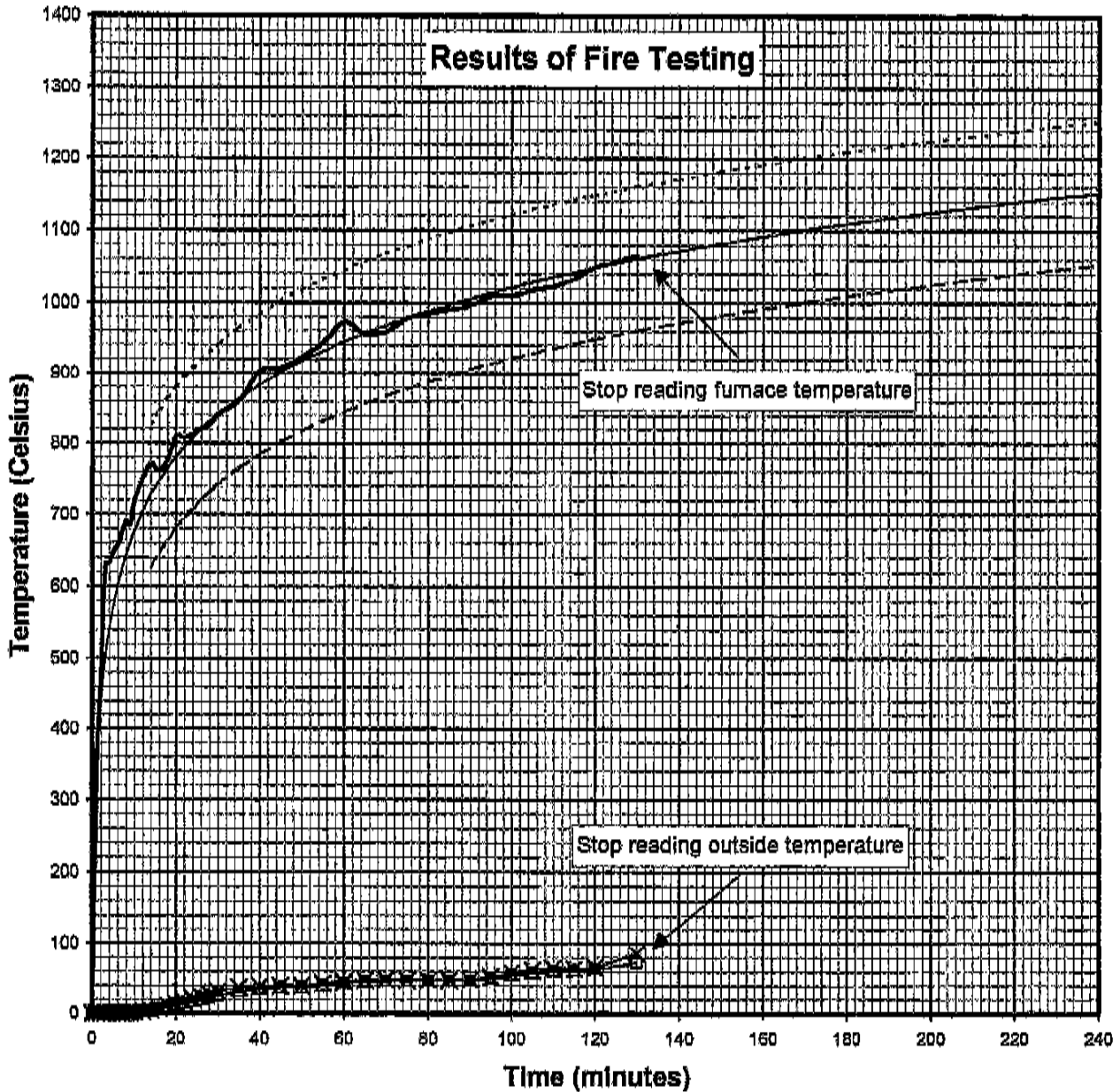
Tested by
(Dr. Anurattana Poltithiri)



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Furnace Temperature according to BS 476:Part 20; Standard

-- Lower Bound
..... Upper Bound

Measured Temperature

T_i = Furnace Temperature T_o = Outside Temperature

— Average T_i
— Average Increase in T_o
— X — Maximum Increase in T_o

Date: January 11, 2002

Tested by

(Associate Prof. Dr. Benchai Stitmannathum)
On Behalf of Head of Civil Engineering Department

Dr. Theerapong Pothisiri

Reference No. FTL-22/44

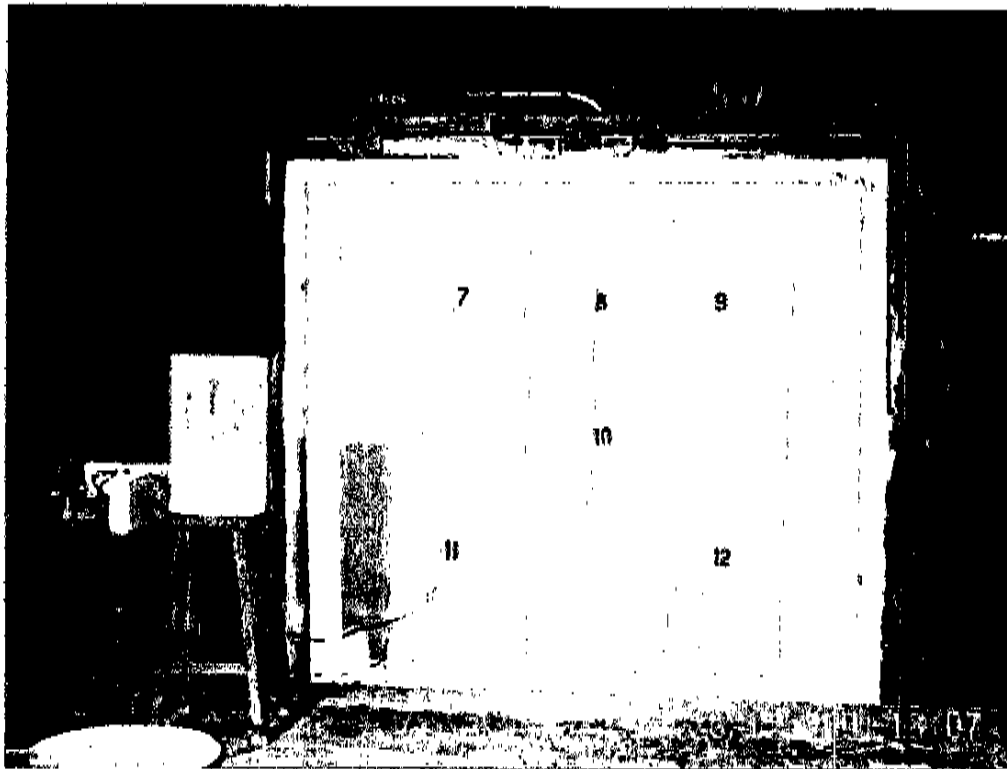


Figure 1. The test specimen

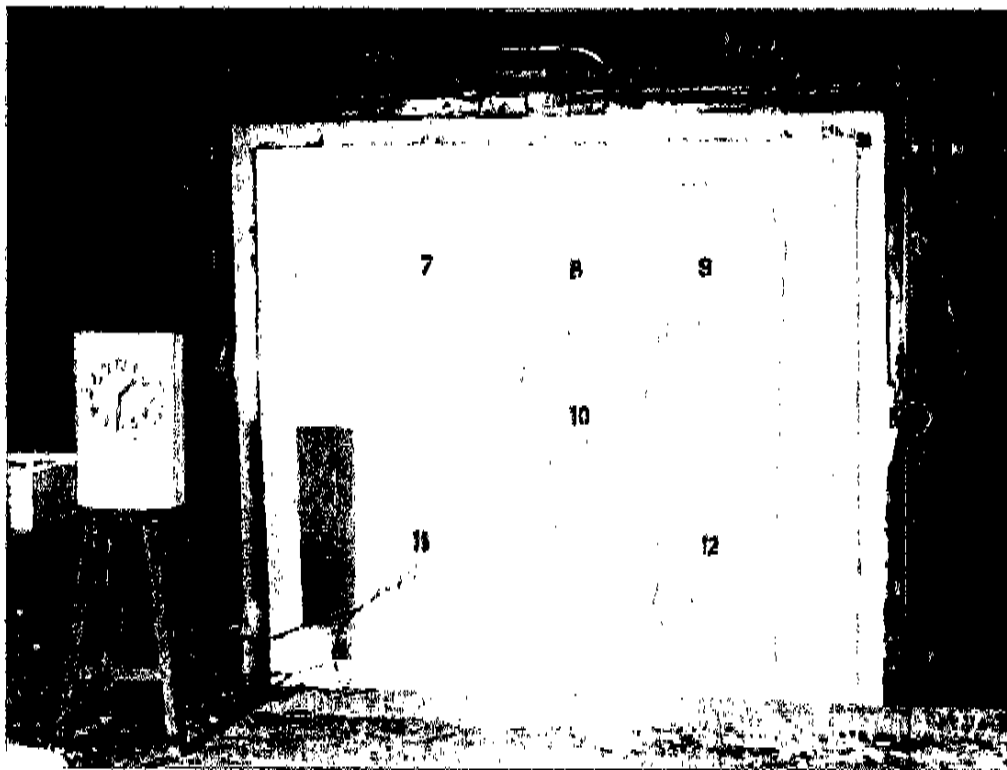


Figure 2. The test specimen at 90 minutes

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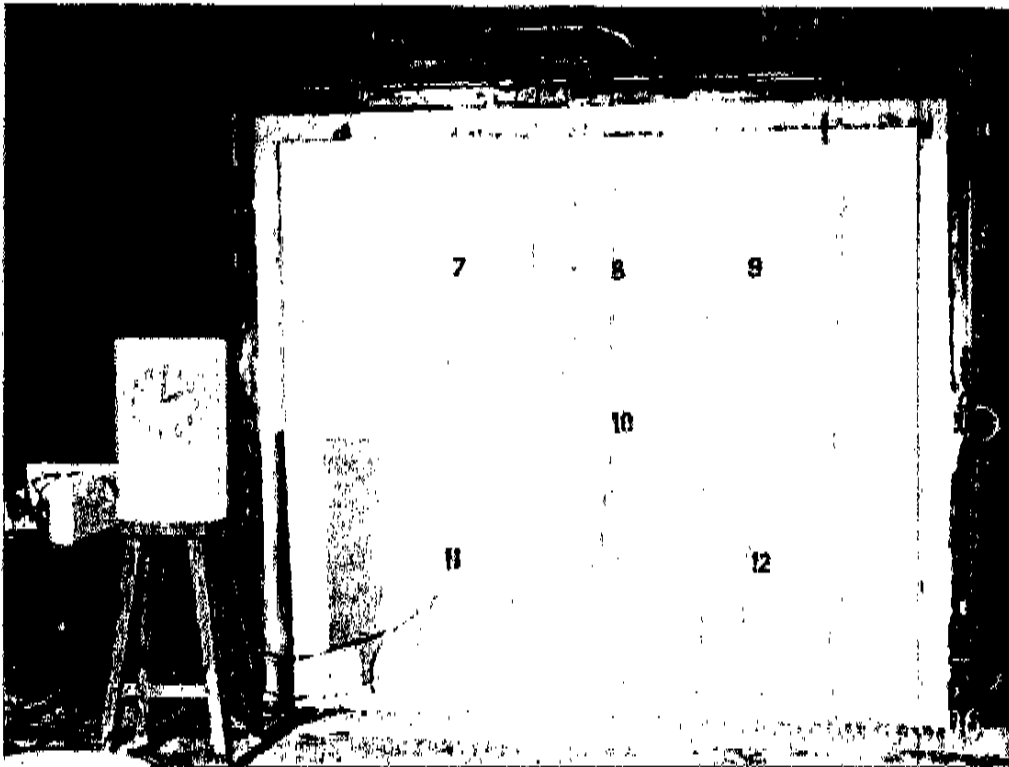


Figure 3. The test specimen at 120 minutes

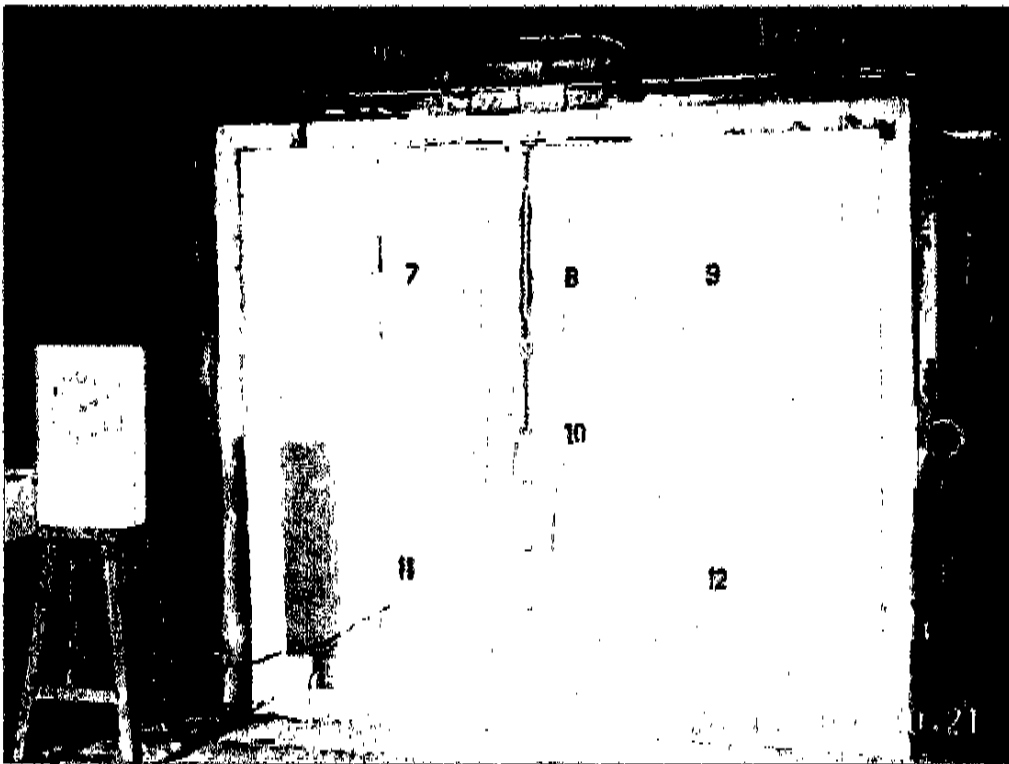
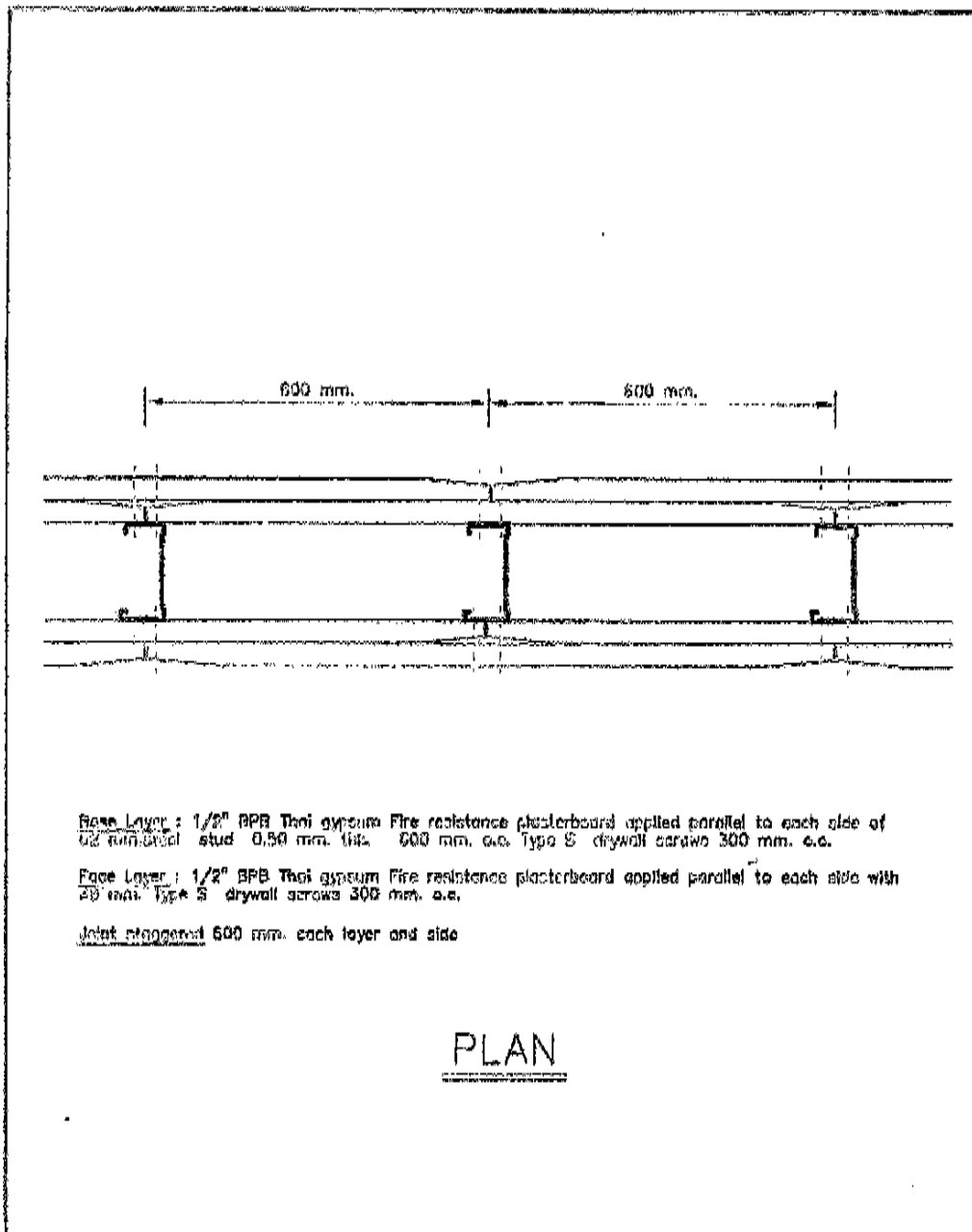


Figure 4. The test specimen at 135 minutes

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Appendix A

Details of the Specimen




Base Layer : 1/2" BPB Thai gypsum Fire resistance plasterboard applied parallel to each side of 62 mm steel stud 0.50 mm dia. 600 mm. o.c. Type S drywall screws 300 mm. o.c.

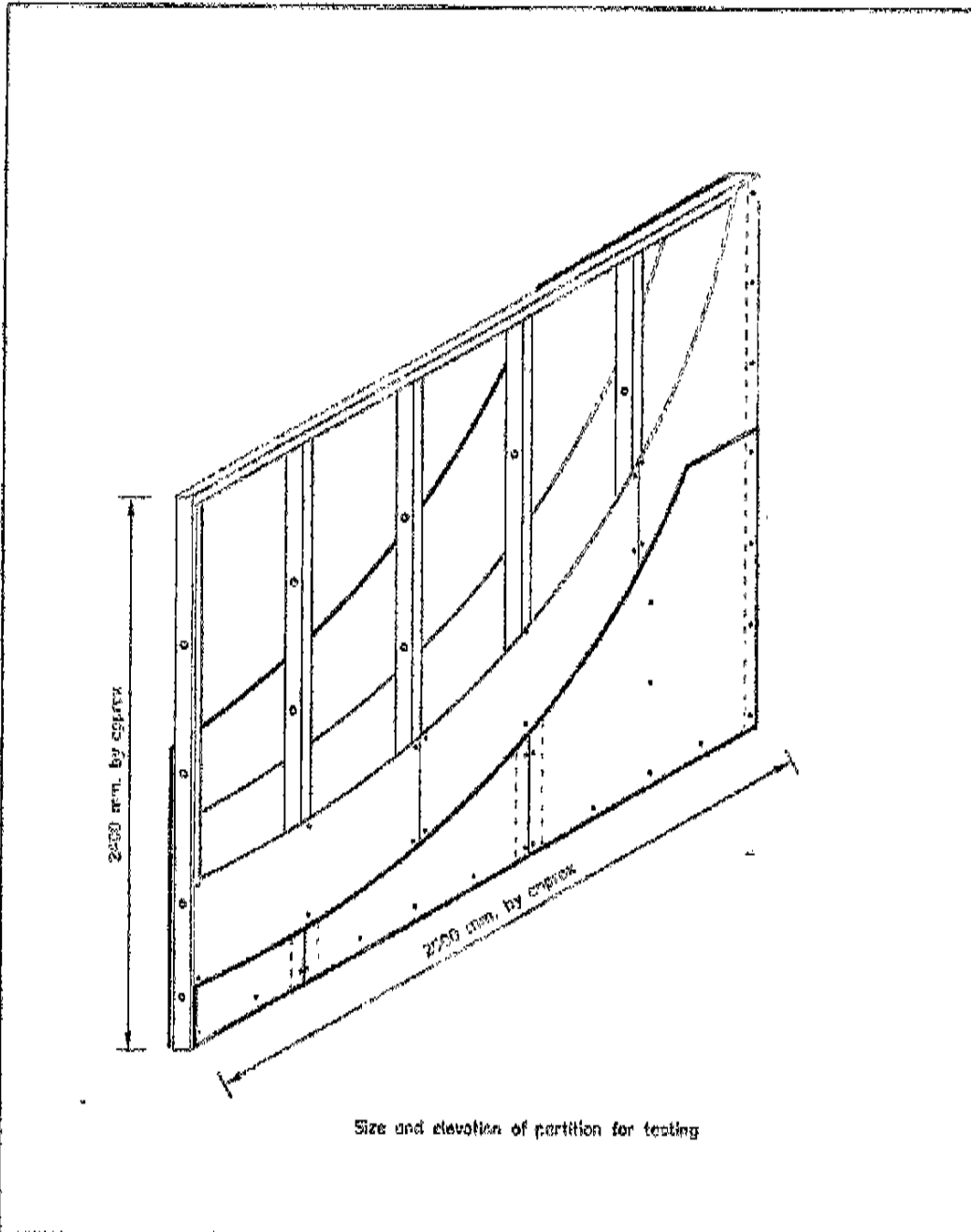
Face Layer : 1/2" BPB Thai gypsum Fire resistance plasterboard applied parallel to each side with 20 mm dia. Type S drywall screws 300 mm. o.c.


Joint staggered 600 mm. each layer and side

PLAN

Title : GypWall partition 2 Layers Fire stop board		 <p>Thai Gypsum</p> <p>Technical Support Centre Tel. 66(0)2 6425221-4 E-mail : Tech.A@bpb.com</p>
Dwg. No. TGWL 1/2	Scale : None	
Date : 08/01/2008	File Ref. BS 470 test	

Reference No. **FTL-22/44**



Title : GypWall partition 2 Layers TG Fire stop board		 Thai Gypsum Technical Support Centre Tel. 66(0)2 6425221-4 E-Mail : Tech.A@tpb.com
Dwg. No. TGM. 2/2	Scale : None	
Date : 08/01/2002	File Ref. TG 476 test	