



DAP-PL-4077.00

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## Business unit III – Structural fire prevention

Manager: Dipl.-Phys. Ingolf Kotthoff

### Work team 3.2 – Fire behavior of structural components

# Classification Report

Report on the classification of the fire resistance acc. to EN 13501-1:2003

KB III / 08 - 005

1<sup>st</sup> copy

**Principal:** DuPont de Nemours (Luxembourg) S.à.r.l.  
Building Innovations  
Rue Général Patton  
L-2984 Luxembourg

**Product name:** EI60 drywall with Engerain™ panels

**Date of issue:** 14/01/2008

**Valid until:** 14/01/2013

**Prepared by:** Dipl.-Ing. S.Hauswaldt

This document shall not be deemed a type approval or product certification and shall not substitute a verification of applicability according to State building regulations, if any, as required under the provisions of the German building law (State building regulations) and shall be valid only in connection with the associated test report.

This classification report consists of 4 sheets.

This test report shall be published only in unabridged form. Any publication – also in excerpts – shall be subject to the prior written consent of MFPA Leipzig GmbH. The legal form shall be the written form with original stamp and original signature of the authorized signatory.

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## 1 Introduction

This classification report defines the classification assigned to the drywall according to the methods given in EN 13501-2: 2003.

## 2 Details of the classified product

### 2.1 Type of function

The drywall structure is defined as non-load bearing, room enclosing, thermally insulating wall structure. Its function is to resist the fire in accordance with the characteristic fire behavior according to sections 5.2.1, 5.2.2 und 5.2.3 of EN 13501-2:2003.

### 2.2 Product description

The wall structure with an overall thickness of 110 mm consists of supports of C sections (50 mm x 50 mm x 0.6 mm) with a maximum center distance of the axes of the supports of 600 mm and three layers of planks at both sides, each consisting of one layer of Energain™ boards and two layers of firechecked gypsum plaster boards, type F according to EN 520 (GKF boards) with a thickness of 12.5 mm each. The spaces between the supports are insulated with 40 mm thick rock wool.

The first layer of planks of Energain™ boards is fastened at the supporting structure by dry wall screws 3.9 x 55 mm at a spacing of 250 mm. The second and third layer of planks of GKF boards are fastened by dry wall screws 3.9 mm x 55 mm at a spacing of 400 mm. All board joints and heads of screws are sealed. The structure and fastening of the planks are the same at both sides of the wall.

For further structural details please refer to the Test Report P III/B-07–457 of MFPA Leipzig.

**Table 1: Summary of building materials used**

Designation of building material	Thickness [mm]	Bulk density [kg/m³]	Building material classification acc. to EN 13501-1
firechecked gypsum plaster board - designation GKF, type F acc. to EN 520	12.5	>800	A2 / non-inflammable
DuPont™ Energain™ boards	5.3	936	E / inflammable
rock wool	40	>30	A1 non-inflammable
Supporting structure CW 50 x 50 x 0.6	0.6	*)	A1 / non-inflammable
Dry wall screws 3.9 x 55.	3.9	*)	A1 / non-inflammable

\*) no specific requirements



### 3 Test reports and test results for classification

#### 3.1 Test report

Name of test laboratory	Principal	Number of test report	Test method
MFPA Leipzig GmbH	DuPont de Nemours (Luxembourg) S.à.r.l.	PB III/B-07-457	EN 1364-1:1999 based on EN 1363-1:1999

#### 3.2 Test result

Test method	Parameters	Result
<b>EN 1364-1: 1999-10 in association with EN 1363-1: 1999-10</b>	<b>Room enclosure</b>	
	Ignition of swab	No ignition
	Occurrence of fissures	No fissures
	Flame formation at the off side	No continuous flame leaks
	<b>Thermal insulation</b>	
	Average value > 140 K	No exceeded during the whole test period of 96 minutes
	max. individual value > 180 K	

### 4 Classification and direct field of application

#### 4.1 Reference

This classification has been carried out in accordance with section 7.5.2 of EN 13501-2: 2003.

#### 4.2 Classification

The non-load bearing, room enclosing, thermally insulating drywall structure has been classified according to the following combined performance parameters and categories.

<b>R</b>	<b>E</b>	<b>I</b>	<b>W</b>	-	<b>t</b>	-	<b>M</b>	<b>C</b>	<b>S</b>	<b>IncSlow</b>	<b>sn</b>	<b>ef</b>	<b>r</b>
-	E	I	-	-	90	-	-	-	-	-	-	-	-

**Fire resistance class: EI 90**



### 4.3 Field of application

This classification shall be valid for the following conditions of application:

- It is a non-load bearing drywall structure,
- The maximum height is 3.00 m,
- The maximum center distance of the axes of the supports is 600 mm,
- Installation of thicker GKF boards or mineral wool boards is admissible,
- The fastening spacings of the dry wall screws may be reduced,
- Joints and heads of screws shall be sealed.

Leipzig, 14/01/2008

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