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www.ibs-austria.at - office@ibs-austria.at / DVR: 0659959, FN 89116d REGISTERGERICHT LINZ, UID-NR. ATU 23289705

## Expert Opinion

**This Report shall classify the reaction to fire of the building product  
"Insulation fastener Hilti X-IE"**

**Report No. 13070301-2-en**

Date: 10.01.2014

Official in charge: Mr. R. BECK / am

EXT: 885

**Sponsor/manufacturer:**

**Hilti AG**  
Feldkircherstrasse 100  
FL-9494 Schaan

**Subject of expert opinion:**

**Insulation fastener  
"Hilti X-IE"**

**Brief assessment:**

Under the terms of EN 13501-1:2009 the building product is expected to achieve Euroclass classification A2-s1, d0 based on the documents and reports listed in this Report.

**Date of request:**

16.07.2013

**This Expert Opinion contains: 4 pages**

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## **1. General information**

With reference to the basic documents and normative references mentioned below, the sponsor requested for an expert opinion classifying the product "insulation fastener Hilti X-IE".

## **2. Basic documents**

IBS Test Report No. 13070301-1 of 19.07.2013 "Reaction to fire tests for building products - Determination of the gross heat of combustion (calorific value) in accordance with OENORM EN ISO 1716" of the structural member "insulation fastener Hilti X-IE".

## **3. Normative references**

OENORM EN 13501-1:

"Fire classification of construction products and building elements – Part 1:  
Classification using test data from reaction to fire tests"

Published: 1<sup>st</sup> December 2009

OENORM EN ISO 1716:

"Reaction to fire tests for products: Determination of the gross heat of combustion (calorific value)"

Published: November 2010

OENORM EN ISO 13943:

"Fire safety - Vocabulary"

Published: 15<sup>th</sup> January 2011

## **4. Product description according to sponsor**

### **Insulation fastener "Hilti X-IE"**

Insulation fastener

X-IE 6-40 to X-IE 6-200 with plate  $\varnothing$  60 mm

X-IE 9-60 to X-IE 9-200 with plate  $\varnothing$  90 mm

## 5. Test results

Test Report no. 13070301-1

Sample		Mean value [MJ/kg]
Hostalen	GHC	<b>46.495</b>
Sabic	GHC	<b>46.181</b>

The following table lists the maximum number of insulation fasteners "Hilti X-IE" per square metre with regard to their plastics content as well as the threshold value defined as  $\leq 4$  MJ/m<sup>2</sup> for non-substantial components and reaction-to-fire class A2 as set down in OENORM EN 13501-1.

The table was established conservatively for the material "Hostalen" but shall cover both materials "Hostalen and Sabic".

Product name	Synthetic material [kg/pc]	GHC (MJ/kg)	Maximum number [pcs/m <sup>2</sup> ]	GHC max. pieces [MJ/m <sup>2</sup> ] $\leq 4$
XIE 6-40	0.0071	46.495	<b>12</b>	$3.961 \leq 4$
XIE 6-50	0.0080	46.495	<b>10</b>	$3.720 \leq 4$
XIE 6-60	0.0087	46.495	<b>9</b>	$3.641 \leq 4$
XIE 6-70	0.0094	46.495	<b>9</b>	$3.933 \leq 4$
XIE 6-75	0.0097	46.495	<b>8</b>	$3.608 \leq 4$
XIE 6-80	0.0101	46.495	<b>8</b>	$3.757 \leq 4$
XIE 6-90	0.0109	46.495	<b>7</b>	$3.548 \leq 4$
XIE 6-100	0.0116	46.495	<b>7</b>	$3.775 \leq 4$
XIE 6-120	0.0131	46.495	<b>6</b>	$3.655 \leq 4$
XIE 6-140	0.0145	46.495	<b>5</b>	$3.371 \leq 4$
XIE 6-150	0.0153	46.495	<b>5</b>	$3.557 \leq 4$
XIE 6-160	0.0161	46.495	<b>5</b>	$3.743 \leq 4$
XIE 6-180	0.0176	46.495	<b>4</b>	$3.273 \leq 4$
XIE 6-200	0.0193	46.495	<b>4</b>	$3.589 \leq 4$
XIE 9-60	0.0109	46.495	<b>7</b>	$3.548 \leq 4$
XIE 9-80	0.0124	46.495	<b>6</b>	$3.459 \leq 4$
XIE 9-90	0.0131	46.495	<b>6</b>	$3.655 \leq 4$
XIE 9-100	0.0138	46.495	<b>6</b>	$3.850 \leq 4$
XIE 9-120	0.0153	46.495	<b>5</b>	$3.557 \leq 4$
XIE 9-140	0.0168	46.495	<b>5</b>	$3.906 \leq 4$
XIE 9-160	0.0183	46.495	<b>4</b>	$3.403 \leq 4$
XIE 9-180	0.0199	46.495	<b>4</b>	$3.701 \leq 4$
XIE 9-200	0.0215	46.495	<b>4</b>	$3.999 \leq 4$

## 6. Assessment

Based on the above mentioned foundations and test findings, it can be concluded that the building product "insulation fastener Hilti X-IE" is expected to receive classification Euro-class A2-s1, d0 as a non-substantial component of a structural member when respecting the classification criteria and the quantities and masses given in the above table.


## 7. Validity of this Expert Opinion

This Expert Opinion is based on the currently valid normative references and documents and the fire protection experiences of IBS-Institut für Brandschutztechnik und Sicherheitsforschung GmbH.

In the event that premature changes are necessary to this Expert Opinion e.g. due to design modifications and processes or expiry of basic documents or standards, then the validity of this Expert Opinion shall expire immediately.

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Akkreditierte Prüf-, Inspektions- und Zertifizierungsstelle**

  
Ing. Roland BECK  
Official in charge

  
Ing. Josef KRAML  
Authorised signatory