

Reference Department Business Unit Installation Systems Technical Marketing August 14, 2013

## Third Party Approval - Class E, Reaction to Fire

The EPDM rubber material used in Hilti MP-PI Pipe rings has been tested for reaction to fire by SGS, third party laboratories.

Tests have been performed in accordance with requirements of EN ISO 11925-2:2010.

The results are covered by third party report Nr. SP 130603617-2, issued by SGS Ltd. Shanghai, Member of SGS Group. This report is dated 12.08.2013 and signed for SGS-CSTC Standards by Ivy Zhu, SGS.

The report proves the reaction to fire is fully compliant to all requirements which are necessary to classify this EPDM rubber as "Class E" material, according EN 13501-1:2010.

The EPDM rubber used on MP-PI has been classified as Class E, according EN 13501-1:2010, by SGS, third party laboratories.

Dr.-Ing. C. Wiedner

NMTwc, Team Leader Technical Marketing

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Dr.-Ing. E. Kuhnel NPke, Project Manager

Hilti Corporation 9494 Schaan Liechtenstein

Feldkircherstrasse 100 | P.O. Box 333 T +423-234 2111 | F +423-234 3332 www.hilti.com

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The classification made by SGS is documented in the attached SGS report. Please refer to page 3/6 to find the original classification, cited here for your convenience.

e product, "RUBBER USED ON "HILTI MP-PI" PRODUCT", classification is as following	,
Fire behaviour	
E	
Reaction to fire classification: E	
mark: The classes with their corresponding fire performance are given in annex A.	
To be continued	
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Hilti Corporation 9494 Schaan

Liechtenstein

Feldkircherstrasse 100 I P.O. Box 333 T +423-234 2111 I F +423-234 3332 www.hilti.com

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#### HILTI (SHANGHAI) LTD.

## 1528 SHEN NAN ROAD, XINZHUANG INDUSTRY PARK SHANGHAI

This Report cancels and supersedes the Report No.: SP130603617-1 dated: July 18, 2013 issued by SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.

The following sample(s) was/ were submitted and identified on behalf of the client as:

Sample Name	:	RUBBER USED ON "HILTI MP-PI" PRODUCT
Sample No.	:	SP130603617
Test Required	•	EN ISO 11925-2:2010 Reaction to fire tests — Ignitability of building products
		subjected to direct impingement of flame — Part 2: Single-flame source test.
Date of Receipt	:	June 13,2013
Test Period	:	June 13,2013 to July 2,2013
Test result(s)	:	For further details, please refer to the following page(s)
		******** To be continued*******

Signed for SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd

Ivy Zhu Authorized signatory

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## I. Test conducted

This test is conducted as per EN ISO 11925-2:2010 Reaction to fire tests — Ignitability of building products subjected to direct impingement of flame — Part 2: Single-flame source test.

## II. Sample details

Name / Color	RUBBER USED ON "HILTI MP-PI" PRODUCT / Black
Size of sample	250mm×90mm, 6 pcs

	Temperature (°C)	Humidity (%)	Duration (h)
Precondition	23±2	50±5	336
Flame application time		30s	

Remark: Test specimens shall be conditioned at least 48 h before testing, until constant mass is achieved.

#### **III. Test Results**

1. Face ignition

Parameter	1	2	3
Occurrence of ignition (Yes/No)	Yes	Yes	Yes
Whether flame reaches150 mm	No	No	No
Time to reach 150 mm			
Ignition of the filter paper (Yes/No)	No	No	No

\*\*\*\*\*\*\*\*\* To be continued\*\*\*\*\*\*\*\*

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## 2. Bottom edge ignition

Parameter	1	2	3
Occurrence of ignition (Yes/No)	Yes	Yes	Yes
Whether flame reaches150 mm	No	No	No
Time to reach 150 mm			
Ignition of the filter paper (Yes/No)	No	No	No

Remark: "---"means not reached 150mm

## **IV. Classification**

## Classification

The product, "RUBBER USED ON "HILTI MP-PI" PRODUCT", classification is as following,

Fire behaviour

Е

**Reaction to fire classification: E** 

Remark: The classes with their corresponding fire performance are given in annex A.

\*\*\*\*\*\*\*\* To be continued\*\*\*\*\*\*\*\*

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#### Annex A

Classes of reaction to fire performance for construction products excluding floorings and linear pipe thermal insulation products

Class	Test method(s)		Classification criteria	Additional classification
	EN ISO 1182 <sup>a</sup> and EN ISO 1716		<i>∆T</i> ≤30°C, and <i>∆m</i> ≤50%, and t <sub>i</sub> =0(i.e. no sustained flaming)	-
A1			PCS≤2.0MJ/kg <sup>ª</sup> and PCS≤2.0MJ/kg <sup>bc</sup> and PCS≤1.4MJ/m <sup>2d</sup> and PCS≤2.0MJ/kg <sup>e</sup>	-
	EN ISO 1182 <sup>a</sup> or		<i>∆T</i> ≤50℃, and <i>∆m</i> ≤50%, and t <sub>í</sub> ≤20 s	-
A2	EN ISO 1716	and	PCS≤3.0MJ/kg <sup>a</sup> and PCS≤4.0MJ/m <sup>2 b</sup> and PCS≤4.0MJ/m <sup>2 d</sup> and PCS≤3.0MJ/kg <sup>e</sup>	-
	EN 13823		FIGRA≤120W/s and LFS <edge and<br="" of="" specimen="">THR<sub>600s</sub>≤7.5MJ</edge>	Smoke production <sup>f</sup> and Flaming droplets/particles <sup>g</sup>
в	EN 13823 and EN ISO 11925-2 <sup>1</sup> Exposure =30s		FIGRA≤120W/s and LFS <edge and<br="" of="" specimen="">THR<sub>600s</sub>≤7.5MJ</edge>	Smoke production <sup>f</sup> and
			within 60s <i>F</i> s≤150mm	Flaming droplets/particles <sup>g</sup>

\*\*\*\*\*\*\*\* To be continued\*\*\*\*\*\*\*\*

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C EN ISO 11925-2 <sup>1</sup> Exposure=30s	<i>THR</i> <sub>600s</sub> ≤15MJ <i>F</i> s≤150mm within 60 s	Smoke production <sup>f</sup> and Flaming droplets/particles <sup>g</sup>
EN 13823 and	FIGRA≤750W/s	Smoke production <sup>f</sup> and
D EN ISO 11925-2 <sup>1</sup> Exposure=30s	<i>F</i> s≤150mm within 60 s	Flaming droplets/particles <sup>g</sup>
E EN ISO 11925-2 <sup>1</sup> Exposure =15s	<i>F</i> s≤150mm within 20 s	flaming droplets/particles <sup>h</sup>
F No performance determined		
satisfies the following criteria of EN 1 MJ, and s1, and d0. <sup>d</sup> For any internal non-substantial comp <sup>e</sup> For the product as a whole. <sup>1</sup> In the last phase of the development have been introduced, the effect of w limit values and/or parameters for the s1 = SMOGRA ≤ 30m <sup>2</sup> /s <sup>2</sup> and TSP <sub>600</sub> or s2 <sup>g</sup> d0 = No flaming droplets/ particles in d1 = no flaming droplets/ particles pe d2 = not d0 or d1. Ignition of the paper in EN ISO 11928 <sup>h</sup> Pass = no ignition of the paper (no c Fail = ignition of the paper (d2 classif	$_{\rm Ps} \leq 50 {\rm m}^2$ ; s2 = SMOGRA $\leq 180 {\rm m}^2/{\rm s}^2$ and EN 13823 within 600 s; presisting longer than 10 s in EN 13823 w 5-2 results in a d2 classification. lassification);	e of specimen, and $\text{THR}_{600s} \le 4,0$ ne smoke measurement system ay result in a modification of the nd $\text{TSP}_{600s} \le 200\text{m}^2$ ; s3 = not s1 ithin 600 s;
flame attack.		

\*\*\*\*\*\*\*\* To be continued\*\*\*\*\*\*\*\*

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**Statement:** The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

## Sample Photo:



- The test was performed by SGS internal laboratory.

\*\*\*\*\*\*\*\* End of report \*\*\*\*\*\*\*\*

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