



Confirmation

Eurofins Product Testing A/S confirms that a sample of a Polyurethane Adhesive with the name

OTTOCOLL® P 410
supplied by
Hermann Otto GmbH

showed low VOC contents in a test specified in LEED 2009 credit EQ c4.1 (adhesives and sealants).

VOC contents were below the limit value specified as 70 grams VOC minus water per liters for "Multipurpose Construction Adhesives".

The test has been performed in September 2011, see test report no. G10204.

Volatiles content was calculated by Eurofins.
Water content was set to zero.
Content of exempt compounds was set to zero.
Solids content was determined by Eurofins.

With this confirmation, use of product OTTOCOLL® P 410 may qualify for fulfilment of LEED 2009 credit EQ c4.1 (adhesives and sealants).

8 September 2011

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Date
 8 September 2011

Your ref.
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Our ref.
 G10204/IB

Test Report – LEED 2009 EQ c4.1, SCAQMD rule 1168 (2005)

Sample material

Sample identification	OTTOCOLL® P 410
Product type	Multipurpose Construction Adhesives
Product data, according to manufacturer	Density: 1.23 g/ml at 20 °C ** Water content: 0 g/l** Exempt compounds***.
Date received	22 August 2011
Analytical period	August to September 2011

Methods applied

Method	Principle	Parameter	Detection limit	Uncertainty
LEED 2009 EQ c4.1 ASTM D 2369 - 10	Gravimetric	Total Volatiles, SCAQMD rule 304	1 g/l	10 %

Volatile content of the sample was determined gravimetrically by heating up to 110 °C during 60 minutes. The result is the average of double testing. The result was calculated as:

$$([g \text{ all volatiles}] - [g \text{ water}] - [g \text{ exempt compounds}]) / ([l \text{ material}] - [l \text{ water}] - [l \text{ exempt compounds}])$$

U_m (%): The expanded uncertainty U_m is equal to 2 x RSD%, see also www.eurofins.dk, keyword: Måleusikkerhed

Analytical results

	Solid content, % mass	Water content, % mass	Exempt com- pounds, % mass	VOC less wa- ter less ex- empt com- pounds, g/l	VOC limit g/l
OTTOCOLL® P 410	96,9	0	0	38	70*

* VOC limit for "Multipurpose Construction Adhesives"

** Given by the client

*** Not information about exempt compounds. Set to zero.

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Inge Bondgaard
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