

Lafarge Roofing Technical Centers Ltd · Sussex Manor Business Park
Gatwick Road · Crawley · West Sussex · RH10 9NZ · England

TEST REPORT

LAFARGE ROOFING TECHNICAL CENTERS: UKAS TESTING LABORATORY No 1210
"Transverse strength of concrete roofing tiles (BS EN490:2004:Para 5.5/ BS EN491:2004:Para 5.6)"

Samples have been tested in accordance with BS EN491:2004: Paragraph 5.6

Sample Reference	E0968				Number tested	3	
Sample Description	Elabana concrete roof tiles. Manufactured in Bangalore by Monier Roofing Pvt Ltd				Sampled by	Monier Roofing Pvt Ltd	
Customer	X Janin Monier Roofing Pvt Ltd Bangalore, India						
Date received	10/10/2007			Date tested	14/11/2007		
Purpose of testing	Product compliance with EN490.						
Abnormalities or departures from standard conditions	Only 2 samples submitted for testing						
Required value: (Fmin =2000N)*	Test results: (N)	1	2	3	4	5	
		2427	2344				
TEST RESULT	PASSED				Number of tiles failing: (Result < Fmin N)*	0	
	Fm= 2386N	SD= 59					

Comments/Observations:

Reported by:



D Wholey
UKAS Quality Manager

Authorised by:



S Holt
UKAS Deputy Technical Manager

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TECHNICAL CENTERS

Lafarge Roofing Technical Centers Ltd · Sussex Manor Business Park
 Gatwick Road · Crawley · West Sussex · RH10 9NZ · England

Date: 14-Nov-07
 Report No: 07/1431

TEST REPORT

LAFARGE ROOFING TECHNICAL CENTERS: UKAS TESTING No 1210

"Impermeability of concrete roofing tiles (BS EN490:2004:Para 5.6/ BS EN491:2004:Para 5.7)"

Samples have been tested in accordance with BS EN491:2004: Paragraph 5.7 (Test duration 20 hours)

Sample Reference	E0968		Number tested	3
Sample Description	Elabana concrete roof tiles. Manufactured in Bangalore by Monier Roofing Pvt Ltd	Sampled by	Monier Roofing Pvt Ltd	
Customer	X Janin Monier Roofing Pvt Ltd Bangalore, India			
Date received	10/10/2007	Duration of test	18-19/10/2007	
Abnormalities or departures from standard conditions	NONE			
Test specimen	Drops of water on underside of tile (Y/N)	Water drops registered by detector (Y/N)		
1	N	N	20.5 hrs	
2	N	N	20.6 hrs	
3	N	N	20.3 hrs	
TEST RESULT				
PASSED				

Observations: (1) Silicone sealant used

Reported by:



D Wholey
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TECHNICAL CENTERS

Lafarge Roofing Technical Centers Ltd · Sussex Manor Business Park
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Date: 14-Nov-07
 Report No: 07/1432

TEST REPORT

LAFARGE ROOFING TECHNICAL CENTERS: UKAS TESTING 1210
 "Freeze/thaw resistance (BS EN490:2004:Para 5.7/ BS EN491:2004:Para 5.8)"

Samples have been tested in accordance with BS EN 491:2004: Paragraph 5.8

Sample Reference	E0968			Number tested	3
Sample Description	Elabana concrete roof tiles. Manufactured in Bangalore by Monier Roofing Pvt Ltd	Sampled by	Monier Roofing Pvt Ltd		
Customer	X Janin Monier Roofing Pvt Ltd Bangalore, India				
Date received	10/10/2007	Duration of test (dates)	From	22/10/2007	
			To	14/11/2007	
Abnormalities or departures from standard conditions	NONE				
(i) Freeze/thaw cycling	No damage seen on any tiles after 25 cycles.				
(ii) Impermeability testing	No dampness or free water seen on any tiles after 20 hours.				
(iii) Transverse strength testing : Minimum strength requirement (2000N)	RESULTS	1	2	3	
		2341	2540	2260	
TEST RESULT	PASSED Fm= 2380N SD= 144				

Reported by:



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Date : 14-Nov-07

Report No : 07/1433

TEST REPORT

LAFARGE ROOFING TECHNICAL CENTERS: UKAS TESTING 1210
"Cover width (BS EN490:2004: Para 5.2.2/BS EN491:2004: Para 5.3)"

Sample Reference	E0968	Sampled by	Monier Roofing Pvt Ltd
		Interlocking	Yes
Sample description	Elabana concrete roof tiles. Manufactured in Bangalore by Monier Roofing Pvt Ltd	Non-Interlocking	No
Customer	X Janin Monier Roofing Pvt Ltd Bangalore, India.		
Date received	10/10/2007	Date tested	16/10/2007

(a) Interlocking tiles:

Specification: average cover width shall be within ± 5 mm of the manufacturers declared value

Manufacturers declared value * (mm)	Average cover width (Cwd + Cwc)/20 (mm)	Conforms to requirement Y/N	TEST RESULT
300	301.5	Yes	PASS

(b) Non-interlocking tiles

Specification : average cover width shall be within ± 3 mm of the manufacturers declared value

Manufacturers declared value * (mm)	Average cover width (Cwc)/10 (mm)	Conforms to requirement Y/N	TEST RESULT

Abnormalities or departures from standard conditions	NONE
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Reported by:

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Issue 5 Ed 2
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Date: 14-Nov-2007
Report No: 07/1434

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TEST REPORT

LAFARGE ROOFING TECHNICAL CENTERS: UKAS TESTING 1210
"Flatness (BS EN490 : 2004 : Para 5.2.3 / BS EN491 : 2004 : Para 5.4)"
"Mass (BS EN490 : 2004 : Para 5.3 / BS EN491 : 2004 : Para 5.5)"
"Nib support (BS EN490 : 2004 : Para 5.8 / BS EN491 : 2004 : Para 5.9)"

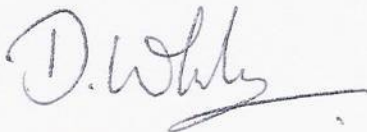
Samples have been tested in accordance with BS EN491 : 2004 {Paragraph(s) indicated above}

Sample Reference	E0968			Number tested	3
Sample Description	Elabana concrete roof tiles. Manufactured in Bangalore by Monier Roofing Pvt Ltd.			Sampled by	Monier Roofing Pvt Ltd
Customer	X Janin Monier Roofing Pvt Ltd Bangalore, India.				
Date received	10/10/2007	Date tested	11/10/2007	Manufacturers declared mass (kg)	4.2
Abnormalities or departures from standard conditions	NONE				
SPECIFICATIONS:				TEST RESULTS	
(1) Flatness: gaps between desired contact points and reference surface(s) do not exceed 3mm				PASS	
(2) Mass: average mass of the samples tested does not differ from declared value by (>0.2kg or ± 10%)				PASS	
(3) Nib support: tiles remained hanging for >60 seconds				PASS	

OBSERVATIONS:

Reported by:

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Date: 14-Nov-2007

Report No : 07/1435

TEST REPORT

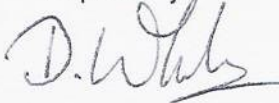
LAFARGE ROOFING TECHNICAL CENTERS: UKAS TESTING 1210
"Hanging length and squareness (BS EN490 : 2004 : Para 5.2.1 / BS EN491 : 2004 : Para 5.2)"

Samples have been tested in accordance with BS EN491 : 2004

Sample Reference	E0968		Number tested	3	
Sample Description	Elabana concrete roof tiles. Manufactured in Bangalore by Monier Roofing Pvt Ltd.		Sampled by	Monier Roofing Pvt Ltd	
Customer	X Janin Monier Roofing Pvt Ltd Bangalore India				
Date received	10/10/2007	Date tested	11/10/2007	Manufacturers declared hanging length (mm)	400
Testing requirements	Constant hanging length : hanging length and squareness	YES	Regularly varying hanging length : hanging length only	NO	
Abnormalities or departures from standard conditions	NONE				
SPECIFICATIONS:				TEST RESULTS	
(1) Hanging length : specimens tested are within \pm 4mm of the manufacturers declared value				PASS	
(2) Squareness : differences between tile edge measurements do not exceed 4mm				PASS	

OBSERVATIONS:

Reported by:



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