TEST REPORT

MÉLYÉPÍTŐ LABOR Kft.
Budapesti Központi Laboratórium
1144 Budapest, Füredi u. 74-76.
Fax: +36 1 2711 051; E-mail: info@melyepitolabor.hu
On nr. NAH-1-1383/2016 accredited laboratory by NAT.

The test report has 1 numbered page.

Testing hardened concrete Part 3: Compressive strength of test specimen

MSZ EN 12390-3:2009

Customer: **Exoline LTD**
Cim: England RH 19 4LZ
Administrator: **Maksa Márta**
Identifier:
Location: **Exoline Esztrich**

No. of sample: **0001**
Reg.num.: M/2019/03/ **0667**.1110
Num.of work: **0001**

Related documents' identifiers:
Sampling report: **19/03/0667.9990**
Measuring records: **19/03/0667.1110**

Date of sampling: **07.02.2019**
Type of sampling:
Date of arrival: **11.02.2019**
Date of test: **07.03.2019**

1.SAMPLING DATAS

SAMPLER: Maksa Márta PLACE OF SAMPLING: Labor
NUM. OF TEST PCS.: 3 pcs SIGN: E1/E2/E3 **150x150x150 cube**
PURPOSE OF TEST: RELIMINARY (INF.)
REQUESTED TIME FOR EXAM.: 07.03.2019 ARRIVED:11.02.2019 AGE: 28 days

2.TECHNOLOGICAL DATAS:

PLACE OF MIXING, TYPE OF MACHINE: **Mélyépítő Labor Kft.**

PLANNED QUALITY: C30/37-8--MSZ 4798:2016

COMPOSITION:

NR. OF RECIPE: Esztrich concrete

	Name	Origin	Mass		W/C:
CEMENT:	**CEM II/A-S 42,5 N**	DDC Vác	**400**	kg/m3	
AGGREGATES:	**OH 0/4**		**1417**	kg/m3	
	OK 4/8		**354**	kg/m3	
CHEMICALS:	**EXOLINE**		12,00	kg/m3	
ADDITIVES:				kg/m3	
				kg/m3	

FOLLOW-UP CA RE**Utókezelés nélkül**

3.BUILD-IN DATAS:

PLACE OF BUILDING-IN: Trial mix
NAME OF CONSTRUCTION:
STRUCTURE: Laboratory trial mix SIGN: AMOUNT: m3

4.TESTING DATA

Sing of test pieces	Weight(g)	Sizes (mm) Pressed surface		Height	Breaking power(kN)	Density (kg/m3)	Entity srtength f_{ci} (N/mm2)
E1	7655	150,0	150,0	150,0	998,3	2270	44,4
E2	7701	149,9	150,0	150,0	1015,1	2280	45,1
E3	7622	149,9	149,9	150,0	1008,2	2260	44,9

Average strength:

Rm= 44,8 N/mm2

f_i >= 35,5

Notes:

The laboratory makes all detailed results available for customer at request.

Name (nr.) of tool: Shinko Denshi scale12/06 VI. Caliper300 mm -
Name (nr.) of tool: Controls digital concrete crusher 02116404 Right angle(Szalkai) 3614/2004

6. stamp
1144 Budapest Füredi u. 74-76.
MÉRŐKÖNYV

Date: **Budapest, 07.03.2019**

Nemes Zoltán
signature of tester

Morvay Bence
technical head

TEST REPORT

MÉLYÉPÍTŐ LABOR Kft.
Budapesti Központi Laboratórium
1144 Budapest, Füredi u. 74-76.
Fax: +36 1 2711 051; E-mail: info@melyepitolabor.hu
On nr. NAH-1-1383/2016 accredited laboratory by NAT.

The test report has 1 numbered page.

Mix-designing

MSZ EN 12390-8:2009

Customer: **Exoline LTD**
Cim: England RH 19 4LZ
Administrator: **Maksa Márta**
Identifier:
Location: **Exoline Esztrich**

No. of sample: **0001**
Reg.num.: M/2019/03/ **0667**.1230
Num.of work: **0001**

Related documents' identifiers:
Sampling report: **19/03/0667.9990**
Measuring records: **19/03/0667.1230**

Date of sampling: **07.02.2019**
Type of sampling:
Date of arrival: **07.02.2019**
Date of test: **07.03.2019**

1.SAMPLING DATAS

SAMPLER: Maksa Márta PLACE OF SAMPLING: Labor
NUM. OF TEST PCS.: 3 pcs SIGN: E1/E2/E3
PURPOSE OF TEST: RELIMINARY (INF.)
REQUESTED TIME FOR EXAM.: 07.03.2019 ARRIVED: 07.02.2019 AGE: 28 days

2.TECHNOLOGICAL DATAS:

PLACE OF MIXING, TYPE OF MACHINE: **Mélyépítő Labor Kft.**

PLANNED QUALITY: C30/37-8--MSZ 4798:2016

COMPOSITION:

NR. OF RECIPE: Esztrich concrete

	Name	Origin	Mass		W/C:
CEMENT:	**CEM II/A-S 42,5 N**	DDC Vác	400	kg/m3	
AGGREGATES:	**OH 0/4**		1417	kg/m3	
	OK 4/8		354	kg/m3	
CHEMICALS:	EXOLINE		12,00	kg/m3	
ADDITIVES:				kg/m3	
				kg/m3	

FOLLOW-UP CARE: **Utókezelés nélkül**

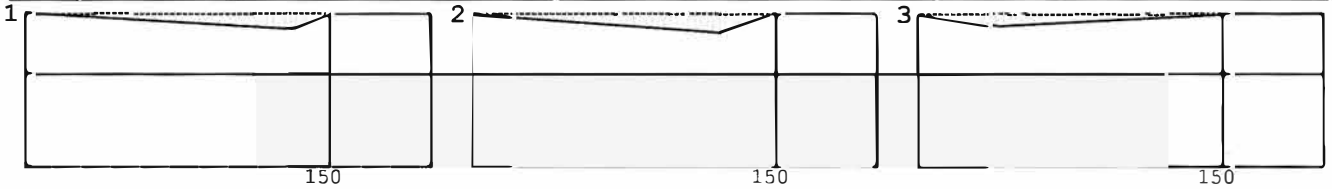
3.BUILD-IN DATAS:

PLACE OF BUILDING-IN: **Trial mix**
NAME OF CONSTRUCTION:
STRUCTURE: **Laboratory trial mix** SIGN: AMOUNT: m3

4.TESTING DATA

	Test piece sign	Rate of water penetr. [mm]
1	1	12
2	2	15
3	3	10

Testing pressure [bar]	5
Duration of pressure [hour]	72
Test begin	07.03.2019 10:00
Test end	10.03.2019 10:00



The laboratory makes all detailed results available for customer at request.
Notes:

Name (nr.) of tool: Controls digital concrete crusher 02116404
Name (nr.) of tool: Caliper 300 mm -
Watertightness tester 04/2002
Pressure gauge RK075582

6. stamp
MÉLYÉPÍTŐ LABOR KFT
1144 Budapest Füredi u. 74-76
VIZSGÁLATI JEGYZŐKÖNYV

Date: **Budapest, 07.03.2019**

Nemes Zoltán
signature of tester

Morvay Bence
technical head

EXOLINE LTD

MÉLYÉPÍTŐ LABOR KFT

QUALIFICATION OF CONCRETE

According to MSZ 4798:2016

Appendix to Test Report: M/2018/03/0667

Minimum charasterstic cube strength:

$f_{ck,\ cube}$ = **40,2** N/mm^2

1. Criteria:

$f_{cm,\ test} \geq f_{ck,\ cube,\ H} + 4,5$

$f_{cm,test}$ = **44,8** N/mm^2

$f_{ck\ cube\ ,H} + 4,5$ = **44,7** N/mm^2

Suitable

2. Criteria:

$f_{ci,min,\ test} \geq f_{ck,\ cube,H} - 4,5$

$f_{ci,\ min}$ = **44,4** N/mm^2

$f_{ck\ cube\ ,H} - 4,5$ = **35,7** N/mm^2

Suitable

Strength class:

C30/37

Conformity:

SUITABLE

This appendix can be copied and valid only with the test protocol

EXOLINE LTD

MÉLYÉPÍTŐ LABOR KFT

QUALIFICATION OF CONCRETE

According to MSZ 4798:2016

Appendix to Test Report: M/2018/03/0667

Concrete water resistance test:

- **Water pressure: 500 kPa (5 bar)**
- **Duration: 72 hours**

Test report:

The depth of water penetracion:

- Sample 1: 12 mm
- Sample 2: 15 mm
- Sample 3: 10 mm

Maximum allowed depth of water penetracion to meet the standard:

15 mm: XV3(H)

Based on the test results the water resistence of the concrete is 500 kPa (5 bars).

Conformity:

SUITABLE

This appendix can be copied and valid only with the test protocol

TEST REPORT

MÉLYÉPÍTŐ LABOR Kft.
Budapesti Központi Laboratórium
1144 Budapest, Füredi u. 74-76.
Fax: +36 1 2711 051; E-mail: info@melyepitolabor.hu

MÉLYÉPÍTŐ LABOR KFT

The test report has 1 numbered page.

Determination of the flexural strength of test specimens
Testing hardened concrete
MSZ EN 12390-5:2009

Customer: **Exoline LTD**
Cim: England RH 19 4LZ
Administrator: **Maksa Márta**
Identifier:
Location: **Exoline Esztrich**

No. of sample: **0001**
Reg.num.: M/2019/03/ **0667**.1120
Num.of work: **0001**

Related documents' identifiers:
Sampling report: **19/03/0667.9990**
Measuring records: **19/03/0667.1120**

Date of sampling: **07.02.2019**
Type of sampling:
Date of arrival: **11.02.2019**
Date of test: **07.03.2019**

1.SAMPLING DATAS
SAMPLER: Maksa Márta PLACE OF SAMPLING: Labor
NUM. OF TEST PCS.: 3 pcs SIGN: E1/E2/E3 **160x 40x 40 prism**
PURPOSE OF TEST: RELIMINARY (INF.)
REQUESTED TIME FOR EXAM.: 07.03.2019 ARRIVED: 11.02.2019 AGE: 28 days

2.TECHNOLOGICAL DATAS:
PLACE OF MIXING, TYPE OF MACHINE: **Mélyépítő Labor Kft.**

PLANNED QUALITY: C30/37-8--MSZ 4798:2016

COMPOSITION:

NR. OF RECIPE: Esztrich concrete

	Name	Origin	Mass		W/C:
CEMENT:	**CEM II/A-S 42,5 N**	DDC Vác	400	kg/m3	
AGGREGATES:	**OH 0/4**		1417	kg/m3	
	OK 4/8		354	kg/m3	
CHEMICALS:	EXOLINE		12,00	kg/m3	
ADDITIVES:				kg/m3	
				kg/m3	

FOLLOW-UP CARE: **Utókezelés nélkül**

3.BUILD-IN DATAS:
PLACE OF BUILDING-IN: Trial mix
NAME OF CONSTRUCTION:
STRUCTURE: Laboratory trial mix SIGN: AMOUNT: m3

4.TESTING DATA
TEST METHOD: ***force on one point***

Form correctness: Differing from surface plane (0,0005 d):
DEGREE BETWEEN ATTACHED SIDES (90° ± 0,5°):

Signon test piece	Weight m (g)	Sizes (mm) Length L	Width d_1	Height d_2	Comp.force F (kN)	Density ρ (kg/m3)	Flexural strength f_{cf} (N/mm2)	
E1	530	159,3	39,7	39,9	1,7	2101	4,00	
E2	532	159,8	39,6	39,8	1,7	2112	4,20	
E3	535	159,9	39,8	39,7	1,6	2117	3,90	
					Average:	2110	4,03	

The laboratory makes all detailed results available for customer at request.

Notes:

Study focusing on acting with a single load occurred
Calculated value to force on two points: **3,5 3,7 3,5 Average: 3,6 N/mm** 2

Name (nr.) of tool:	Tensile and compressive strength measuring machines 282/63	Caliper 300 mm	Right angle (Szalkai) 3614/2004
Name (nr.) of tool:	Ishida scale 5081484	Sola measuring tape	

6. stamp
1144 Budapest, Füredi u. 74-76.
VIZSGÁLATI JEGYZŐKÖNYV

Date: **Budapest, 07.03.2019**

Nemes Zoltán
signature of tester

Morvay Bence
technical head

TEST REPORT

MÉLYÉPÍTŐ LABOR Kft.
Budapesti Központi Laboratórium
1144 Budapest, Füredi u. 74-76.
Fax: +36 1 2711 051; E-mail: info@melyepitolabor.hu
On nr. NAH-1-1383/2016 accredited laboratory by NAT.

The test report has 1 numbered page.

Examination of adhering-solidity
Examination of adhering-solidity and thickness
ÚT 2-3.406:2000 M1 melléklet

Customer: **Exoline LTD**
Cím: England RH 19 4LZ
Administrator: **Maksa Márta**
Identifier:
Location: **Exoline Esztrich**

No. of sample: **0001**
Reg.num.: M/2019/03/ **0667** .1950
Num.of work: **0001**

Related documents' identifiers:
Sampling report: **19/03/0667.9990**
Measuring records: **19/03/0667.1950**

Date of arrival: **11.02.2019**
Date of test: **07.03.2019**

Names of tested pieces:		

Test places:				

1.Survaying:

2.Test

Test places	Leolv. kN	Cohesive strength (N/mm^2) entity	avg.	Fracture image
	0,6	**0,60**	**0,6**	
	0,7	**0,50**		
	0,4	**0,70**		
	0,5	**0,60**		
	0,6	**0,60**	**0,6**	
	0,7	**0,50**		
	0,4	**0,60**		
	0,6	**0,60**		

The laboratory makes all detailed results available for customer at request.
Notes:

The accuracy of measurement: 1,6%

Name (nr.) of tool:
Name (nr.) of tool:

stamp MÉLYÉPÍTŐ LABOR KFT 1144 Budapest, Füredi u. 74-76. VIZSGÁLATI JEGYZŐKÖNYV

Date: **Budapest, 07.03.2019**

Nemes Zoltán
signature of tester

Horvay Bence
technical head