Test Report

Report No	2371/8524841	This Report consists of 26 pages
Client	ACO Severin Ahlmann GmbH & Co. KG AM Ahlmannkai Budelsdorf 24782 Germany	
Authority & date	Signed Quotation Acceptance No. BSI 0000762160 Dated 25 April 2016	
Items tested	Linear Drainage Channels	
Specification	BS EN 1433:2002 + A1:2005 Clauses 4, 5, 6.3.4, 7.1, 7.2, 7.3, 7.5, 7.8, 7.15.1 and 8 Direct commission test	
Results	See Summary of Results on Page 2	
Prepared by	C Higby	Engineer
Authorized by	S Ginger	Team Manager
Issue Date	19 May 2016	
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TESTING, EXAMINATION AND ASSESSMENT OF LINEAR DRAINAGE CHANNELS SUBMITTED AS A DIRECT COMMISION TEST SAMPLES

INTRODUCTION

At the request of ACO Severin Ahlmann GmbH & Co. KG the linear drainage channels detailed below were tested and assessed against the requirements of BS EN 1433:2002 + A1:2005 Clauses 4, 5, 6.3.4, 7.1, 7.2, 7.3, 7.5, 7.8, 7.15.1 and 8 as indicated on the following pages of this Report. It is emphasized that assessments were not made against the other clauses of the Specification. This request was made in a BSI Quotation Acceptance Form number BSI 0000762160 dated 25 April 2016.

The testing detailed in this Test Report was supervised by a BSI representative at the premises of ACO Severin Ahlmann GmbH & Co. KG, on 17 May 2016.

TEST ITEMS

Item No	Class	Type	Product Type	Part No	Description
1	E600	M	ACO Multiline Seal in V100S Typ 20.0 100cm	132370	Linear Drainage Channel
2	D400	M	ACO Multiline Seal in V100S Typ 20.0 100cm	132370	Linear Drainage Channel
3	C250	M	ACO Multiline Seal in V100S Typ 20.0 100cm	132370	Linear Drainage Channel
4	B125/A15	M	ACO Multiline Seal in V100S Typ 20.0 100cm	132370	Linear Drainage Channel
5	E600	M	ACO Multiline Seal in V100S Typ 0.0 100cm	132330	Linear Drainage Channel
6	D400	M	ACO Multiline Seal in V100S Typ 0.0 100cm	132330	Linear Drainage Channel
7	C250	M	ACO Multiline Seal in V100S Typ 0.0 100cm	132330	Linear Drainage Channel
8	B125/A15	M	ACO Multiline Seal in V100S Typ 0.0 100cm	132330	Linear Drainage Channel

SUMMARY OF RESULTS

The test items assessed met the requirements of those clauses, or parts thereof, of the Specification against which assessments were made.

Test No: 1

Component Description: CLASS: E600
PRODUCT: ACO Multiline Seal in V100S Typ 20.0 100cm
REFERENCE:132370

EXAMINATION AND TEST

CLAUSE		**ASSESSMENT**
4.	**CLASSIFICATION**	
	The drainage channel was designated class E600.	Pass
5.	**PLACES OF INSTALLATION FOR DRAINAGE CHANNELS**	
	The manufacturer stated that the drainage channel was intended for installation in Group 5 areas.	Pass
6.	**MATERIALS**	
6.1	**General**	
6.1.1	**Drainage channels**	
	The drainage channel was manufactured from grey polymer concrete.	Not assessed
6.3	**Additional requirements**	
6.3.4	**Synthetic resin concrete**	
	The manufacturer supplied documentary evidence to show that the polyester resin concrete was in accordance with Table 2 when tested using samples in accordance with Table 3	

	Specified	**Actual**	
Flexural bending strength			
Mean (N/mm^2)	22 min	23.2	Pass
Minimum (N/mm^2)	18 min	22.1	Pass
Compressive strength			
Mean (N/mm^2)	90 min	111.5	Pass
Compressive strength			
Minimum (N/mm^2)	75 min	108.9	Pass

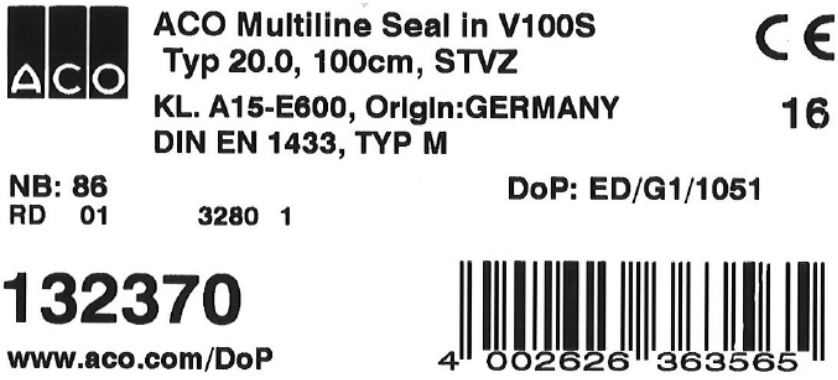
7.	**DESIGN AND MANUFACTURING REQUIREMENTS**	
7.1	**General**	
	The drainage channel was free of defects which might impair its fitness for purpose.	Pass
	No assessment was made regarding the adequacy to withstand normal transportation and handling loads.	-
	No assessment was made regarding the channels resistance to external forces resulting from the place of installation.	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE				ASSESSMENT
7.	**DESIGN AND MANUFACTURING REQUIREMENTS (CONTINUED)**			
7.2	**Dimensions and dimensional tolerances**			
		Specified	**Actual**	
	Overall length L (mm)	1000 ±2	999,999,1000	Pass
	Overall width b (mm)	135 ±2	135,135,135	Pass
	Overall height h (mm)	250 ±2.5	252,251,252	Pass
	The specified value is the nominal dimension was taken from manufacturers drawing. The tolerance stated is that required by clause 7.2 for the given nominal size			
7.3	**Geometric design**			
		Specified	**Actual**	
	Dimension b (mm)	-	100	-
	Dimension h (mm)	-	192	-
	Dimension h ≥ b	-	Yes	-
7.5	**Jointing of drainage channel units**			
7.5.1	**Watertightness**			
	The joint between the channel units was designed in such a way that it could be durably sealed.			Pass
	When test in accordance with clause 9.3.6 the joint and the bodies showed no leakage.			Pass
	The manufacturer's instructions stated the jointing method.			Pass
	There was a smooth transition at the joints of adjacent units without constriction if the discharge cross section.			Pass
7.8	**Trafficked edge and contact surface protection**			
	The protection of trafficked edges and contact surfaces between the channel body and grating/cover was by an anchored galvanised steel rail.			Pass
		Specified	**Actual**	
	Trafficked edges (mm)	4 min	4.22,4.16,4.20	-
	Contact surfaces (mm)	2 min	2.12,2.06,2.15	-
7.15	**STRENGTH TESTING**			
7.15.1	**Channel bodies**			
	When tested in accordance with clause 9.1.4.1 the haunched bodies of the three units tested withstood a load of 600kN for 30 seconds without failure or signs of cracking or excessive deformation in the course of the entire test.			Pass
	For Information			
	The samples were set into concrete haunching blocks of sizes (mm)			
		X-200	Y-150 Z-200	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
8.	**MARKING**	
8.2	**Marking of channel bodies**	
	Specified marking	
	a) reference to this standard, EN 1433 (if all requirements are met)	Pass
	b) appropriate class	Pass
	c) name and/or identification mark of manufacturer of the channel body, which may be in code	Pass
	d) Type of product (Type M or Type I)	Pass
	e) date of manufacture (coded or not coded)	Pass
	f) for channel units with inbuilt gradients the sequence on each unit	-
	g) marking of weather resistance grade for concrete drainage channels (N or W and +R if relevant)	-
	Actual marking	
	Visible on body	
	ACO 20.0 → Sealin 001	-
	Label	



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Test No: 2

Component Description: CLASS: D400
PRODUCT: ACO Multiline Seal in V100S Typ 20.0 100cm
REFERENCE: 132370

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
4.	**CLASSIFICATION**	
	The drainage channel was designated class D400.	Pass
5.	**PLACES OF INSTALLATION FOR DRAINAGE CHANNELS**	
	The manufacturer stated that the drainage channel was intended for installation in Group 4 areas.	Pass
6.	**MATERIALS**	
6.1	**General**	
6.1.1	**Drainage channels**	
	The drainage channel was manufactured from grey polymer concrete.	Not assessed
6.3	**Additional requirements**	
6.3.4	**Synthetic resin concrete**	

The manufacturer supplied documentary evidence to show that the polyester resin concrete was in accordance with Table 2 when tested using samples in accordance with Table 3

	Specified	Actual	
Flexural bending strength			
Mean (N/mm^2)	22 min	23.2	Pass
Minimum (N/mm^2)	18 min	22.1	Pass
Compressive strength			
Mean (N/mm^2)	90 min	111.5	Pass
Compressive strength			
Minimum (N/mm^2)	75 min	108.9	Pass

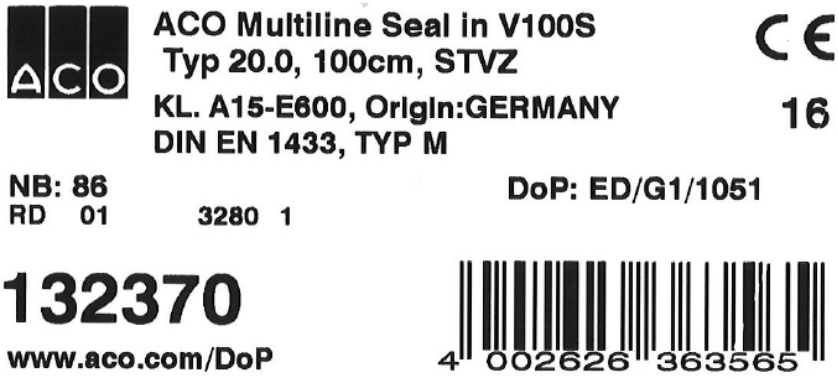
7.	**DESIGN AND MANUFACTURING REQUIREMENTS**	
7.1	**General**	
	The drainage channel was free of defects which might impair its fitness for purpose.	Pass
	No assessment was made regarding the adequacy to withstand normal transportation and handling loads.	-
	No assessment was made regarding the channels resistance to external forces resulting from the place of installation.	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE				ASSESSMENT
7.	**DESIGN AND MANUFACTURING REQUIREMENTS (CONTINUED)**			
7.2	**Dimensions and dimensional tolerances**			
		Specified	**Actual**	
	Overall length L (mm)	1000 ±2	999,999,1000	Pass
	Overall width b (mm)	135 ± 2	135,135,135	Pass
	Overall height h (mm)	250 ± 2.5	252,251,252	Pass
	The specified value is the nominal dimension was taken from manufacturers drawing. The tolerance stated is that required by clause 7.2 for the given nominal size			
7.3	**Geometric design**			
		Specified	**Actual**	
	Dimension b (mm)	-	100	-
	Dimension h (mm)	-	192	-
	Dimension h ≥ b	-	Yes	-
7.5	**Jointing of drainage channel units**			
7.5.1	**Watertightness**			
	The joint between the channel units was designed in such a way that it could be durably sealed.			Pass
	When test in accordance with clause 9.3.6 the joint and the bodies showed no leakage.			Pass
	The manufacturer's instructions stated the jointing method.			Pass
	There was a smooth transition at the joints of adjacent units without constriction if the discharge cross section.			Pass
7.8	**Trafficked edge and contact surface protection**			
	The protection of trafficked edges and contact surfaces between the channel body and grating/cover was by an anchored galvanised steel rail.			Pass
		Specified	**Actual**	
	Trafficked edges (mm)	4 min	4.22,4.16,4.20	Pass
	Contact surfaces (mm)	2 min	2.12,2.06,2.15	Pass
7.15	**STRENGTH TESTING**			
7.15.1	**Channel bodies**			
	When tested in accordance with clause 9.1.4.1 the haunched bodies of the three units tested withstood a load of 400kN for 30 seconds without failure or signs of cracking or excessive deformation in the course of the entire test.			Pass
	For Information			
	The samples were set into concrete haunching blocks of sizes (mm)			
		X-200	Y-150 Z-200	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
8.	**MARKING**	
8.2	**Marking of channel bodies**	
	Specified marking	
	a) reference to this standard, EN 1433 (if all requirements are met)	Pass
	b) appropriate class	Pass
	c) name and/or identification mark of manufacturer of the channel body, which may be in code	Pass
	d) Type of product (Type M or Type I)	Pass
	e) date of manufacture (coded or not coded)	Pass
	f) for channel units with inbuilt gradients the sequence on each unit	-
	g) marking of weather resistance grade for concrete drainage channels (N or W and +R if relevant)	-
	Actual marking	
	Visible on body	
	ACO 20.0 → Sealin 001	-
	Label	



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Test No: 3

Component Description: CLASS: C250
PRODUCT: ACO Multiline Seal in V100S Typ 20.0 100cm
REFERENCE: 132370

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
4.	**CLASSIFICATION**	
	The drainage channel was designated class C250.	Pass
5.	**PLACES OF INSTALLATION FOR DRAINAGE CHANNELS**	
	The manufacturer stated that the drainage channel was intended for installation in Group 3 areas.	Pass
6.	**MATERIALS**	
6.1	**General**	
6.1.1	**Drainage channels**	
	The drainage channel was manufactured from grey polymer concrete.	Not assessed
6.3	**Additional requirements**	
6.3.4	**Synthetic resin concrete**	

The manufacturer supplied documentary evidence to show that the polyester resin concrete was in accordance with Table 2 when tested using samples in accordance with Table 3

	Specified	Actual	
Flexural bending strength			
Mean (N/mm^2)	22 min	23.2	Pass
Minimum (N/mm^2)	18 min	22.1	Pass
Compressive strength			
Mean (N/mm^2)	90 min	111.5	Pass
Compressive strength			
Minimum (N/mm^2)	75 min	108.9	Pass

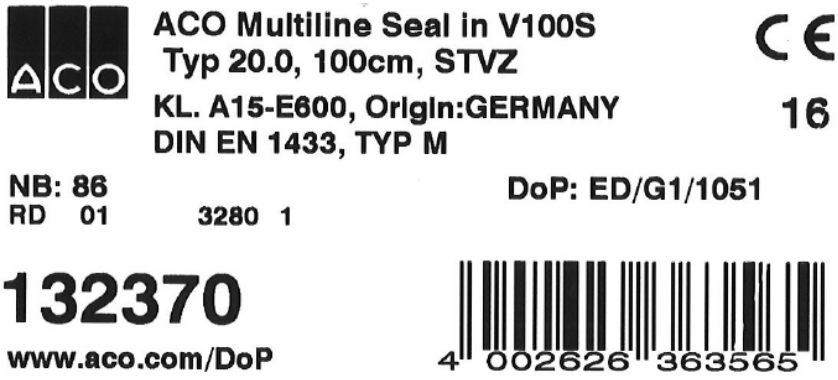
7.	**DESIGN AND MANUFACTURING REQUIREMENTS**	
7.1	**General**	
	The drainage channel was free of defects which might impair its fitness for purpose.	Pass
	No assessment was made regarding the adequacy to withstand normal transportation and handling loads.	-
	No assessment was made regarding the channels resistance to external forces resulting from the place of installation.	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE				ASSESSMENT
7.	**DESIGN AND MANUFACTURING REQUIREMENTS (CONTINUED)**			
7.2	**Dimensions and dimensional tolerances**			
		Specified	**Actual**	
	Overall length L (mm)	1000 ±2	999,999,1000	Pass
	Overall width b (mm)	135 ±2	135,135,135	Pass
	Overall height h (mm)	250 ±2.5	252,251,252	Pass
	The specified value is the nominal dimension was taken from manufacturers drawing. The tolerance stated is that required by clause 7.2 for the given nominal size			
7.3	**Geometric design**			
		Specified	**Actual**	
	Dimension b (mm)	-	100	-
	Dimension h (mm)	-	192	-
	Dimension h ≥ b	-	Yes	-
7.5	**Jointing of drainage channel units**			
7.5.1	**Watertightness**			
	The joint between the channel units was designed in such a way that it could be durably sealed.			Pass
	When test in accordance with clause 9.3.6 the joint and the bodies showed no leakage.			Pass
	The manufacturer's instructions stated the jointing method.			Pass
	There was a smooth transition at the joints of adjacent units without constriction if the discharge cross section.			Pass
7.8	**Trafficked edge and contact surface protection**			
	The protection of trafficked edges and contact surfaces between the channel body and grating/cover was by an anchored galvanised steel rail.			Pass
		Specified	**Actual**	
	Trafficked edges (mm)	2 min	4.22,4.16,4.20	Pass
	Contact surfaces (mm)	1 min	2.12,2.06,2.15	Pass
7.15	**STRENGTH TESTING**			
7.15.1	**Channel bodies**			
	When tested in accordance with clause 9.1.4.1 the haunched bodies of the three units tested withstood a load of 250kN for 30 seconds without failure or signs of cracking or excessive deformation in the course of the entire test.			Pass
	For Information			
	The samples were set into concrete haunching blocks of sizes (mm)			
		X-150	Y-75 Z-150	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
8.	**MARKING**	
8.2	**Marking of channel bodies**	
	Specified marking	
	a) reference to this standard, EN 1433 (if all requirements are met)	Pass
	b) appropriate class	Pass
	c) name and/or identification mark of manufacturer of the channel body, which may be in code	Pass
	d) Type of product (Type M or Type I)	Pass
	e) date of manufacture (coded or not coded)	Pass
	f) for channel units with inbuilt gradients the sequence on each unit	-
	g) marking of weather resistance grade for concrete drainage channels (N or W and +R if relevant)	-
	Actual marking	
	Visible on body	
	ACO 20.0 → Sealin 001	-
	Label	



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Test No: 4

Component Description: CLASS: B125/A15
PRODUCT: ACO Multiline Seal in V100S Typ 20.0 100cm
REFERENCE: 132370

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
4.	**CLASSIFICATION**	
	The drainage channel was designated class A15 and B125.	Pass
5.	**PLACES OF INSTALLATION FOR DRAINAGE CHANNELS**	
	The manufacturer stated that the drainage channel was intended for installation in Group 1 and 2 areas.	Pass
6.	**MATERIALS**	
6.1	**General**	
6.1.1	**Drainage channels**	
	The drainage channel was manufactured from grey polymer concrete.	Not assessed
6.3	**Additional requirements**	
6.3.4	**Synthetic resin concrete**	

The manufacturer supplied documentary evidence to show that the polyester resin concrete was in accordance with Table 2 when tested using samples in accordance with Table 3

	Specified	Actual	
Flexural bending strength			
Mean (N/mm^2)	22 min	23.2	Pass
Minimum (N/mm^2)	18 min	22.1	Pass
Compressive strength			
Mean (N/mm^2)	90 min	111.5	Pass
Compressive strength			
Minimum (N/mm^2)	75 min	108.9	Pass

7.	**DESIGN AND MANUFACTURING REQUIREMENTS**	
7.1	**General**	
	The drainage channel was free of defects which might impair its fitness for purpose.	Pass
	No assessment was made regarding the adequacy to withstand normal transportation and handling loads.	-
	No assessment was made regarding the channels resistance to external forces resulting from the place of installation.	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT

7. DESIGN AND MANUFACTURING REQUIREMENTS (CONTINUED)

7.2 Dimensions and dimensional tolerances

	Specified	Actual	
Overall length L (mm)	1000 ±2	999,999,1000	Pass
Overall width b (mm)	135 ±2	135,135,135	Pass
Overall height h (mm)	250 ±2.5	252,251,252	Pass

The specified value is the nominal dimension was taken from manufacturers drawing. The tolerance stated is that required by clause 7.2 for the given nominal size

7.3 Geometric design

	Specified	Actual	
Dimension b (mm)	-	100	-
Dimension h (mm)	-	192	-
Dimension h ≥ b	-	Yes	-

7.5 Jointing of drainage channel units

7.5.1 Watertightness

The joint between the channel units was designed in such a way that it could be durably sealed. Pass

When test in accordance with clause 9.3.6 the joint and the bodies showed no leakage. Pass

The manufacturer's instructions stated the jointing method. Pass

There was a smooth transition at the joints of adjacent units without constriction if the discharge cross section. Pass

7.8 Trafficked edge and contact surface protection

The protection of trafficked edges and contact surfaces between the channel body and grating/cover was by an anchored galvanised steel rail. -

	Specified	Actual	
Trafficked edges (mm)	-	4.22,4.16,4.20	-
Contact surfaces (mm)	-	2.12,2.06,2.15	-

7.15 STRENGTH TESTING

7.15.1 Channel bodies

When tested in accordance with clause 9.1.4.1 the haunched bodies of the three units tested withstood a load of 125kN for 30 seconds without failure or signs of cracking or excessive deformation in the course of the entire test. Pass

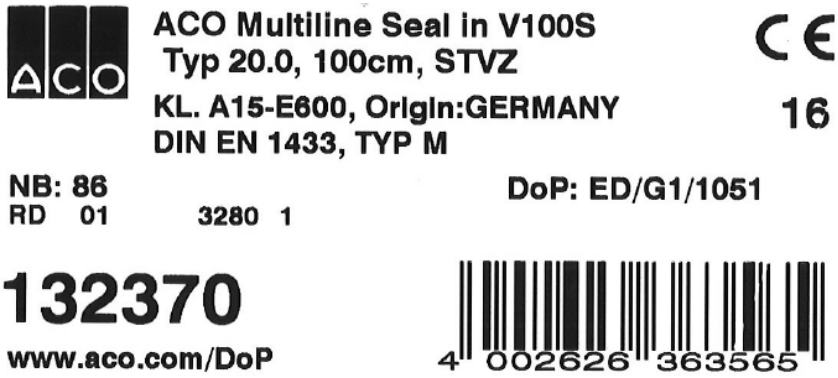
For Information

The samples were set into concrete haunching blocks of sizes (mm)

X-100 Y-75 Z-100 -

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
8.	**MARKING**	
8.2	**Marking of channel bodies**	
	Specified marking	
	a) reference to this standard, EN 1433 (if all requirements are met)	Pass
	b) appropriate class	Pass
	c) name and/or identification mark of manufacturer of the channel body, which may be in code	Pass
	d) Type of product (Type M or Type I)	Pass
	e) date of manufacture (coded or not coded)	Pass
	f) for channel units with inbuilt gradients the sequence on each unit	-
	g) marking of weather resistance grade for concrete drainage channels (N or W and +R if relevant)	-
	Actual marking	
	Visible on body	
	ACO 20.0 → Sealin 001	-
	Label	



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Test No: 5

Component Description: CLASS: E600
PRODUCT: ACO Multiline Seal in V100S Typ 0.0 100cm
REFERENCE: 132330

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
4.	**CLASSIFICATION**	
	The drainage channel was designated class E600.	Pass
5.	**PLACES OF INSTALLATION FOR DRAINAGE CHANNELS**	
	The manufacturer stated that the drainage channel was intended for installation in Group 5 areas.	Pass
6.	**MATERIALS**	
6.1	**General**	
6.1.1	**Drainage channels**	
	The drainage channel was manufactured from grey polymer concrete.	Not assessed
6.3	**Additional requirements**	
6.3.4	**Synthetic resin concrete**	

The manufacturer supplied documentary evidence to show that the polyester resin concrete was in accordance with Table 2 when tested using samples in accordance with Table 3

	Specified	**Actual**	
Flexural bending strength			
Mean (N/mm^2)	22 min	23.2	Pass
Minimum (N/mm^2)	18 min	22.1	Pass
Compressive strength			
Mean (N/mm^2)	90 min	111.5	Pass
Compressive strength			
Minimum (N/mm^2)	75 min	108.9	Pass

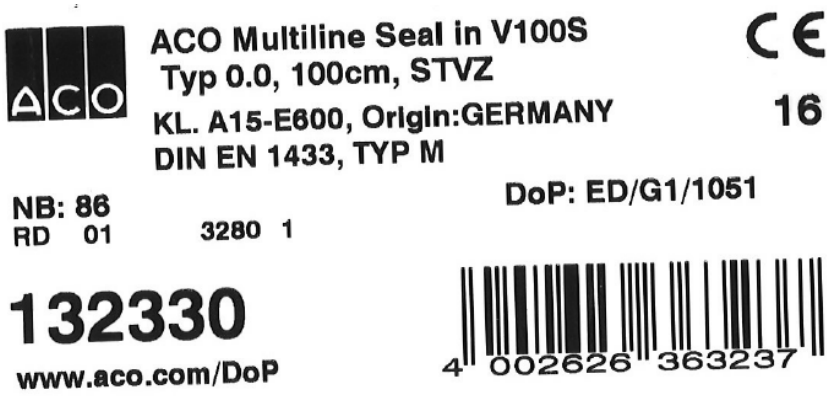
7.	**DESIGN AND MANUFACTURING REQUIREMENTS**	
7.1	**General**	
	The drainage channel was free of defects which might impair its fitness for purpose.	Pass
	No assessment was made regarding the adequacy to withstand normal transportation and handling loads.	-
	No assessment was made regarding the channels resistance to external forces resulting from the place of installation.	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE			ASSESSMENT
7.	**DESIGN AND MANUFACTURING REQUIREMENTS (CONTINUED)**		
7.2	**Dimensions and dimensional tolerances**		
	Specified	**Actual**	
Overall length L (mm)	1000 ±2	999,1000,999	Pass
Overall width b (mm)	135 ±2	135,135,135	Pass
Overall height h (mm)	150 ±2	152,151,150	Pass
	The specified value is the nominal dimension was taken from manufacturers drawing. The tolerance stated is that required by clause 7.2 for the given nominal size		
7.3	**Geometric design**		
	Specified	**Actual**	
Dimension b (mm)	-	100	-
Dimension h (mm)	-	92	-
Dimension h ≥ b	-	No	-
7.5	**Jointing of drainage channel units**		
7.5.1	**Watertightness**		
	The joint between the channel units was designed in such a way that it could be durably sealed.		Pass
	When test in accordance with clause 9.3.6 the joint and the bodies showed no leakage.		Pass
	The manufacturer's instructions stated the jointing method.		Pass
	There was a smooth transition at the joints of adjacent units without constriction if the discharge cross section.		Pass
7.8	**Trafficked edge and contact surface protection**		
	The protection of trafficked edges and contact surfaces between the channel body and grating/cover was by an anchored galvanised steel rail.		Pass
	Specified	**Actual**	
Trafficked edges (mm)	4 min	4.22,4.16,4.20	Pass
Contact surfaces (mm)	2 min	2.12,2.06,2.15	Pass
7.15	**STRENGTH TESTING**		
7.15.1	**Channel bodies**		
	When tested in accordance with clause 9.1.4.1 the haunched bodies of the three units tested withstood a load of 600kN for 30 seconds without failure or signs of cracking or excessive deformation in the course of the entire test.		Pass
	For Information		
	The samples were set into concrete haunching blocks of sizes (mm)		
	X-200 Y-150 Z-200		-

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
8.	**MARKING**	
8.2	**Marking of channel bodies**	
	Specified marking	
	a) reference to this standard, EN 1433 (if all requirements are met)	Pass
	b) appropriate class	Pass
	c) name and/or identification mark of manufacturer of the channel body, which may be in code	Pass
	d) Type of product (Type M or Type I)	Pass
	e) date of manufacture (coded or not coded)	Pass
	f) for channel units with inbuilt gradients the sequence on each unit	-
	g) marking of weather resistance grade for concrete drainage channels (N or W and +R if relevant)	-
	Actual marking	
	Visible on body	
	ACO 0.0 → Sealin 006	-
	Label	



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Test No: 6

Component Description: CLASS: D400
PRODUCT: ACO Multiline Seal in V100S Typ 0.0 100cm
REFERENCE: 132330

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
4.	**CLASSIFICATION**	
	The drainage channel was designated class D400.	Pass
5.	**PLACES OF INSTALLATION FOR DRAINAGE CHANNELS**	
	The manufacturer stated that the drainage channel was intended for installation in Group 4 areas.	Pass
6.	**MATERIALS**	
6.1	**General**	
6.1.1	**Drainage channels**	
	The drainage channel was manufactured from grey polymer concrete.	Not assessed
6.3	**Additional requirements**	
6.3.4	**Synthetic resin concrete**	

The manufacturer supplied documentary evidence to show that the polyester resin concrete was in accordance with Table 2 when tested using samples in accordance with Table 3

	Specified	**Actual**	
Flexural bending strength			
Mean (N/mm^2)	22 min	23.2	Pass
Minimum (N/mm^2)	18 min	22.1	Pass
Compressive strength			
Mean (N/mm^2)	90 min	111.5	Pass
Compressive strength			
Minimum (N/mm^2)	75 min	108.9	Pass

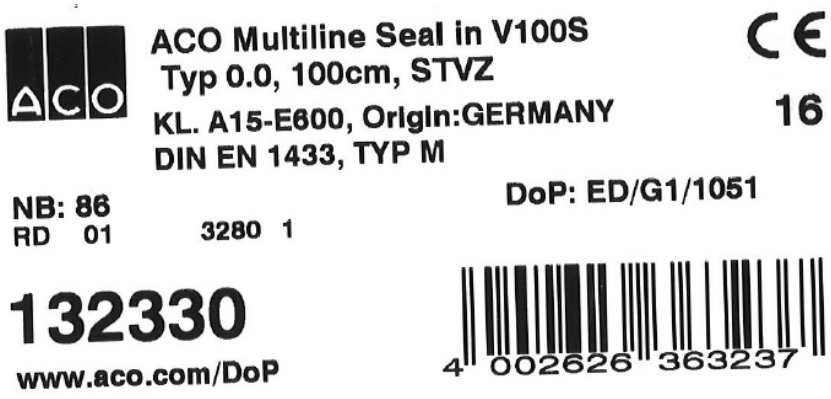
7.	**DESIGN AND MANUFACTURING REQUIREMENTS**	
7.1	**General**	
	The drainage channel was free of defects which might impair its fitness for purpose.	Pass
	No assessment was made regarding the adequacy to withstand normal transportation and handling loads.	-
	No assessment was made regarding the channels resistance to external forces resulting from the place of installation.	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE				ASSESSMENT
7.	**DESIGN AND MANUFACTURING REQUIREMENTS (CONTINUED)**			
7.2	**Dimensions and dimensional tolerances**			
		Specified	**Actual**	
	Overall length L (mm)	1000 ±2	999,1000,999	Pass
	Overall width b (mm)	135 ±2	135,135,135	Pass
	Overall height h (mm)	150 ±2	152,151,150	Pass
	The specified value is the nominal dimension was taken from manufacturers drawing. The tolerance stated is that required by clause 7.2 for the given nominal size			
7.3	**Geometric design**			
		Specified	**Actual**	
	Dimension b (mm)	-	100	-
	Dimension h (mm)	-	92	-
	Dimension h ≥ b	-	No	-
7.5	**Jointing of drainage channel units**			
7.5.1	**Watertightness**			
	The joint between the channel units was designed in such a way that it could be durably sealed.			Pass
	When test in accordance with clause 9.3.6 the joint and the bodies showed no leakage.			Pass
	The manufacturer's instructions stated the jointing method.			Pass
	There was a smooth transition at the joints of adjacent units without constriction if the discharge cross section.			Pass
7.8	**Trafficked edge and contact surface protection**			
	The protection of trafficked edges and contact surfaces between the channel body and grating/cover was by an anchored galvanised steel rail.			Pass
		Specified	**Actual**	
	Trafficked edges (mm)	4 min	4.22,4.16,4.20	Pass
	Contact surfaces (mm)	2 min	2.12,2.06,2.15	Pass
7.15	**STRENGTH TESTING**			
7.15.1	**Channel bodies**			
	When tested in accordance with clause 9.1.4.1 the haunched bodies of the three units tested withstood a load of 400kN for 30 seconds without failure or signs of cracking or excessive deformation in the course of the entire test.			Pass
	For Information			
	The samples were set into concrete haunching blocks of sizes (mm)			
		X-200	Y-150 Z-200	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
8.	**MARKING**	
8.2	**Marking of channel bodies**	
	Specified marking	
	a) reference to this standard, EN 1433 (if all requirements are met)	Pass
	b) appropriate class	Pass
	c) name and/or identification mark of manufacturer of the channel body, which may be in code	Pass
	d) Type of product (Type M or Type I)	Pass
	e) date of manufacture (coded or not coded)	Pass
	f) for channel units with inbuilt gradients the sequence on each unit	-
	g) marking of weather resistance grade for concrete drainage channels (N or W and +R if relevant)	-
	Actual marking	
	Visible on body	
	ACO 0.0 → Sealin 006	-
	Label	



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Test No: 7

Component Description: CLASS: C250
PRODUCT: ACO Multiline Seal in V100S Typ 0.0 100cm
REFERENCE: 132330

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
4.	**CLASSIFICATION**	
	The drainage channel was designated class C250.	Pass
5.	**PLACES OF INSTALLATION FOR DRAINAGE CHANNELS**	
	The manufacturer stated that the drainage channel was intended for installation in Group 3 areas.	Pass
6.	**MATERIALS**	
6.1	**General**	
6.1.1	**Drainage channels**	
	The drainage channel was manufactured from grey polymer concrete.	Not assessed
6.3	**Additional requirements**	
6.3.4	**Synthetic resin concrete**	

The manufacturer supplied documentary evidence to show that the polyester resin concrete was in accordance with Table 2 when tested using samples in accordance with Table 3

	Specified	Actual	
Flexural bending strength			
Mean (N/mm^2)	22 min	23.2	Pass
Minimum (N/mm^2)	18 min	22.1	Pass
Compressive strength			
Mean (N/mm^2)	90 min	111.5	Pass
Compressive strength			
Minimum (N/mm^2)	75 min	108.9	Pass

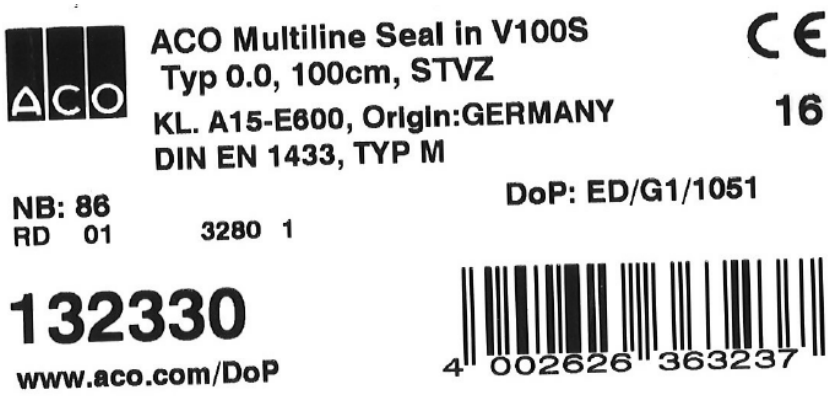
7.	**DESIGN AND MANUFACTURING REQUIREMENTS**	
7.1	**General**	
	The drainage channel was free of defects which might impair its fitness for purpose.	Pass
	No assessment was made regarding the adequacy to withstand normal transportation and handling loads.	-
	No assessment was made regarding the channels resistance to external forces resulting from the place of installation.	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE				ASSESSMENT
7.	**DESIGN AND MANUFACTURING REQUIREMENTS (CONTINUED)**			
7.2	**Dimensions and dimensional tolerances**			
		Specified	**Actual**	
	Overall length L (mm)	1000 ±2	999,1000,999	Pass
	Overall width b (mm)	135 ±2	135,135,135	Pass
	Overall height h (mm)	150 ±2	152,151,150	Pass
	The specified value is the nominal dimension was taken from manufacturers drawing. The tolerance stated is that required by clause 7.2 for the given nominal size			
7.3	**Geometric design**			
		Specified	**Actual**	
	Dimension b (mm)	-	100	-
	Dimension h (mm)	-	92	-
	Dimension h ≥ b	-	No	-
7.5	**Jointing of drainage channel units**			
7.5.1	**Watertightness**			
	The joint between the channel units was designed in such a way that it could be durably sealed.			Pass
	When test in accordance with clause 9.3.6 the joint and the bodies showed no leakage.			Pass
	The manufacturer's instructions stated the jointing method.			Pass
	There was a smooth transition at the joints of adjacent units without constriction if the discharge cross section.			Pass
7.8	**Trafficked edge and contact surface protection**			
	The protection of trafficked edges and contact surfaces between the channel body and grating/cover was by galvanised steel			Pass
		Specified	**Actual**	
	Trafficked edges (mm)	2 min	4.22,4.16,4.20	Pass
	Contact surfaces (mm)	1 min	2.12,2.06,2.15	Pass
7.15	**STRENGTH TESTING**			
7.15.1	**Channel bodies**			
	When tested in accordance with clause 9.1.4.1 the haunched bodies of the three units tested withstood a load of 250kN for 30 seconds without failure or signs of cracking or excessive deformation in the course of the entire test.			Pass
	For Information			
	The samples were set into concrete haunching blocks of sizes (mm)			
		X-150	Y-75 Z-150	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
8.	**MARKING**	
8.2	**Marking of channel bodies**	
	Specified marking	
	a) reference to this standard, EN 1433 (if all requirements are met)	Pass
	b) appropriate class	Pass
	c) name and/or identification mark of manufacturer of the channel body, which may be in code	Pass
	d) Type of product (Type M or Type I)	Pass
	e) date of manufacture (coded or not coded)	Pass
	f) for channel units with inbuilt gradients the sequence on each unit	-
	g) marking of weather resistance grade for concrete drainage channels (N or W and +R if relevant)	-
	Actual marking	
	Visible on body	
	ACO 0.0 → Sealin 006	-
	Label	



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Test No: 8

Component Description: CLASS: B125/A15
PRODUCT: ACO Multiline Seal in V100S Typ 0.0 100cm
REFERENCE: 132330

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
4.	**CLASSIFICATION**	
	The drainage channel was designated classes A15 and B125 .	Pass
5.	**PLACES OF INSTALLATION FOR DRAINAGE CHANNELS**	
	The manufacturer stated that the drainage channel was intended for installation in Group 1 and 2 areas.	Pass
6.	**MATERIALS**	
6.1	**General**	
6.1.1	**Drainage channels**	
	The drainage channel was manufactured from grey polymer concrete.	Not assessed
6.3	**Additional requirements**	
6.3.4	**Synthetic resin concrete**	
	The manufacturer supplied documentary evidence to show that the polyester resin concrete was in accordance with Table 2 when tested using samples in accordance with Table 3	

	Specified	**Actual**	
Flexural bending strength			
Mean (N/mm^2)	22 min	23.2	Pass
Minimum (N/mm^2)	18 min	22.1	Pass
Compressive strength			
Mean (N/mm^2)	90 min	111.5	Pass
Compressive strength			
Minimum (N/mm^2)	75 min	108.9	Pass

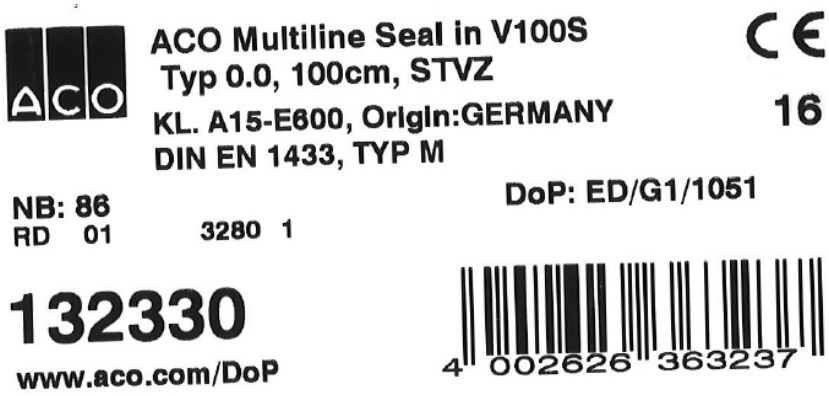
7.	**DESIGN AND MANUFACTURING REQUIREMENTS**	
7.1	**General**	
	The drainage channel was free of defects which might impair its fitness for purpose.	Pass
	No assessment was made regarding the adequacy to withstand normal transportation and handling loads.	-
	No assessment was made regarding the channels resistance to external forces resulting from the place of installation.	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE				ASSESSMENT
7.	**DESIGN AND MANUFACTURING REQUIREMENTS (CONTINUED)**			
7.2	**Dimensions and dimensional tolerances**			
		Specified	**Actual**	
	Overall length L (mm)	1000 ±2	999,1000,999	Pass
	Overall width b (mm)	135 ±2	135,135,135	Pass
	Overall height h (mm)	150 ±2	152,152,150	Pass
	The specified value is the nominal dimension was taken from manufacturers drawing. The tolerance stated is that required by clause 7.2 for the given nominal size			
7.3	**Geometric design**			
		Specified	**Actual**	
	Dimension b (mm)	-	100	-
	Dimension h (mm)	-	92	-
	Dimension h ≥ b	-	No	-
7.5	**Jointing of drainage channel units**			
7.5.1	**Watertightness**			
	The joint between the channel units was designed in such a way that it could be durably sealed.			Pass
	When test in accordance with clause 9.3.6 the joint and the bodies showed no leakage.			Pass
	The manufacturer's instructions stated the jointing method.			Pass
	There was a smooth transition at the joints of adjacent units without constriction if the discharge cross section.			Pass
7.8	**Trafficked edge and contact surface protection**			
	The protection of trafficked edges and contact surfaces between the channel body and grating/cover was by an anchored galvanised steel rail.			-
		Specified	**Actual**	
	Trafficked edges (mm)	-	4.22,4.16,4.20	-
	Contact surfaces (mm)	-	2.12,2.06,2.15	-
7.15	**STRENGTH TESTING**			
7.15.1	**Channel bodies**			
	When tested in accordance with clause 9.1.4.1 the haunched bodies of the three units tested withstood a load of 125kN for 30 seconds without failure or signs of cracking or excessive deformation in the course of the entire test.			Pass
	For Information			
	The samples were set into concrete haunching blocks of sizes (mm)			
		X-100	Y-75 Z-100	-

EXAMINATION AND TEST (CONTINUED)

CLAUSE		ASSESSMENT
8.	**MARKING**	
8.2	**Marking of channel bodies**	
	Specified marking	
	a) reference to this standard, EN 1433 (if all requirements are met)	Pass
	b) appropriate class	Pass
	c) name and/or identification mark of manufacturer of the channel body, which may be in code	Pass
	d) Type of product (Type M or Type I)	Pass
	e) date of manufacture (coded or not coded)	Pass
	f) for channel units with inbuilt gradients the sequence on each unit	-
	g) marking of weather resistance grade for concrete drainage channels (N or W and +R if relevant)	-
	Actual marking	
	Visible on body	
	ACO 0.0 → Sealin 006	-
	Label	



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End of Report