BRITISH STANDARD

BS EN
14188-2:2004

Joint fillers and sealants —

Part 2: Specifications for cold applied sealants

The European Standard EN 14188-2:2004 has the status of a British Standard

ICS 93.080.20

National foreword

This British Standard is the official English language version of EN 14188-2:2004.

The UK participation in its preparation was entrusted by Technical Committee B/510, Road materials, to Subcommittee B/510/3, Materials for concrete roads, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

— monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

Cross-references

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Contents

Foreword

This document (EN 14188-2:2004) has been prepared by Technical Committee CEN/TC 227 “Road materials”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2005, and conflicting national standards shall be withdrawn at the latest by June 2005.

This document is one of a series of standards as listed below.

EN 14188-1, *Joint fillers and sealants — Part 1: Specifications for hot applied sealants.*

EN 14188-2, *Joint fillers and sealants — Part 2: Specifications for cold applied sealants.*

prEN 14188-3, *Joint fillers and sealants — Part 3: Specifications for preformed joint seals.*

This document includes a Bibliography.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This document specifies the requirements for cold applied normal and fuel resistant joint sealants for concrete pavements to be used in roads, parking decks, bridge decks, airfields and other trafficked areas.

This document does not cover the use in gasoline stations, jet fuel stations on airfields and the chemical industry.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 14187-1, *Cold applied joint sealants — Part 1: Test method for the determination of rate of cure.*

EN 14187-2, *Cold applied joint sealants — Part 2: Test method for the determination of tack free time.*

EN 14187-3, *Cold applied joint sealants — Part 3: Test method for the determination of self-levelling properties.*

EN 14187-4, *Cold applied joint sealants — Part 4: Test method for the determination of the change in mass and volume after immersion in test fuels.*

EN 14187-5, *Cold applied joint sealants — Part 5: Test method for the determination of the resistance to hydrolysis.*

EN 14187-6, *Cold applied joint sealants — Part 6: Test method for the determination of the adhesion/cohesion properties after immersion in chemicals liquids.*

EN 14187-7, *Cold applied joint sealants — Part 7: Test method for the determination of the resistance to flame.*

EN 14187-8, *Cold applied joint sealants — Part 8: Test method for the determination of the artificial weathering by UV-irradiation.*

prEN 14187-9, *Cold applied joint sealants — Test methods — Part 9: Function testing of joint sealants.*

EN 26927:1990, *Building construction - Jointing products - Sealants - Vocabulary (ISO 6927:1981).*

EN 28340:1990, *Building construction - Jointing products - Sealants - Determination of tensile properties at maintained extension (ISO 8340:1984).*

EN 28394, *Building construction - Jointing products - Determination of extrudability of one-component sealants (ISO 8394:1988).*

EN 29048, *Building construction — Jointing products — Determination of extrudability of sealants using standardized apparatus (ISO 9048:1987).*

EN ISO 7389, *Building construction - Jointing products - Determination of elastic recovery of sealants (ISO 7389:2002).*

EN ISO 7390:2003, *Building construction - Jointing products - Determination of resistance to flow of sealants (ISO 7390:2003).*

EN ISO 9001, *Quality management systems — Requirements (ISO 9001:2000).*

EN ISO 9047, *Building construction — Jointing products — Determination of adhesion/cohesion properties of sealants at variable temperatures (ISO 9047:2001).*

EN ISO 10563, *Building construction — Sealants for joints — Determination of change in mass and volume (ISO 10563:1991).*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 26927:1990 and the following apply.

3.1
manufacturer's limiting value MLV
manufacturer's stated minimum or maximum value to be met during testing according to the requirements of this document

3.2
manufacturer's declared value MDV
value declared by the manufacturer accompanied by a declared tolerance

3.3
cold climate area
areas in which the temperature can go below – 25 °C and the opening of the joint can exceed 35 %

4 Classification and specification

4.1 Cold applied sealant

According to the field of their application, cold applied joint sealants for joints in concrete pavements have to fulfil different requirements.

Depending on their chemical base and their compositions sealants are available as single or multi-component systems. To make identification easy they shall be designated by the following symbols:

Table 1 — Systems of cold applied joint sealants

Material	System
Single component system	S
Multi components system	M

Table 2 — Types of cold applied joint sealants

Material	Type
Self levelling type	sl
Non sag type	ns

Table 3 — Classes of cold applied joint sealants

Material	Class
No requirements of chemical resistance	A
Used in contact with jet fuel and de-icing chemicals	B
Used in contact with gasoline, diesel and de-icing chemicals	C
Liquid chemicals as required	D

4.2 Primer

Where a primer is recommended by the manufacturer of the joint sealant, the manufacturer's directions for its use shall be followed. Where a primer is part of the system recommended by the manufacturer, then specimens prepared for the appropriate performance tests shall include a primer.

The manufacturer shall always specify whether a primer is required or not.

5 Requirements

5.1 General

For testing a cold applied sealant, the uniform method of conditioning (EN 28340:1990, Method B) shall be applied for test procedures where this conditioning method is stipulated by choice.

A test specimen shall fail if, after the test extension, the sum of adhesive and cohesive failures exceeds 5 %. Test specimens, which pass the first extension, shall fail in subsequent extensions if the sum of additional adhesive or cohesive failures exceeds 10 %.

If one of the three test specimens fails, the test shall be repeated once. If more than one test specimens fail, the sample shall be reported as failing the test.

The manufacturer shall provide installation recommendations. Advice is provided in Annex C.

5.2 Extrudability

5.2.1 Single component sealants

The extrudability of single component sealants, Type ns, shall be determined in accordance with EN 28394 and the result shall conform to the relevant value given in Table 4, line 1.1.

The quantity of extruded material shall be determined using an orifice of (5,0 ± 0,3) mm.

5.2.2 Multicomponent sealants

The extrudability of multicomponent sealants, Type ns, shall be determined at (23 ± 2) °C in accordance with EN 29048 and the result shall conform to the relevant value given in Table 4, line 1.2.

5.3 Rate of cure

The rate of cure shall be determined in accordance with EN 14187-1 to measure the time to reach 80 % of rate of cure. The manufacturer shall declare the rate of cure and the result shall conform to the relevant value given in Table 4, line 2.

5.4 Tack free time

The tack free time shall be determined in accordance with EN 14187-2. The manufacturer shall declare the tack free time and the result shall conform to the relevant value given in Table 4, line 3.

5.5 Self levelling properties

The self levelling properties of cold applied sealants, Type sl, shall be determined in accordance with EN 14187-3. The manufacturer shall declare the self levelling properties and the result shall conform to the relevant value given in Table 4, line 4.

5.6 Resistance to flow

The resistance to flow of cold applied sealants, Type ns, shall be determined in accordance with EN ISO 7390 and the result shall conform to the relevant value given in Table 4, line 5.

The following test conditions shall be applied:

— U-profile with a nominal width of 20 mm and a nominal depth of 10 mm;

— test temperatures of (50 ± 2) °C and (5 ± 2) °C.

5.7 Loss of volume

The loss of volume shall be determined in accordance with EN ISO 10563 and the result shall conform to the relevant value given in Table 4, line 6.

The following test conditions shall be applied:

— Test procedure C: (24,0 ± 0,5) h at (23 ± 2) °C and (50 ± 5) % relative humidity, followed by procedure B, 7 days at (70 ± 2) °C.

5.8 Change in mass and volume after immersion in liquid chemicals

The change in mass and volume after immersion in liquid chemicals shall be determined in accordance with EN 14187-4 and the result shall conform to the relevant value given in Table 4, line 7, after a storage time in liquid chemicals of (72 ± 0,5) h at (23 ± 2) °C using the following test fuels:

— class A: no test;

— class B: test fuel I and de-icing chemicals;

— class C: test fuel II and de-icing chemicals;

— class D: liquid chemical as required.

5.9 Resistance to hydrolysis

The resistance to hydrolysis shall be determined in accordance with EN 14187-5 and the result shall conform to the relevant value given in Table 4, line 8.

The following test conditions shall be applied:

— 14 days at (70 ± 2) °C and (95 ± 5) % relative humidity.

5.10 Cohesion

The cohesion properties at maintained extension shall be determined in accordance with EN ISO 9047 and the result shall conform to the relevant value given in Table 4, line 10.1.

The following test conditions shall be applied:

— The total test procedure includes 10 cycles of extension at (– 20 ± 1) °C and compression at (50 ± 1) °C.

— After completion of the test the test specimens are extended at (– 20 ± 1) °C for (100 ± 2) % of the original width and kept for (24,0 ± 0,5) h at this extension using the spacers.

— Any failures in adhesion or cohesion are recorded.

For cold climate areas:

— The cohesion properties shall be determined in accordance with prEN 14187-9 and the results shall conform to the relevant values in Table 4, line 10.2.

5.11 Bonding strength

The bonding strength shall be determined in accordance with EN 28340 and the results shall conform to the relevant values given in Table 4, line 11. The applied extension shall be (100 ± 2) %.

5.12 Adhesion/cohesion properties at maintained extension after immersion in liquid chemicals

The adhesion/cohesion properties at maintained extension after immersion in liquid chemicals shall be determined in accordance with EN 14187-6 and the results shall conform to the relevant values in Table 4, line 14.

The following test conditions shall be applied:

Storage time of (72,0 ± 0,5) h at (23 ± 2) °C using the following test liquids:

— class A: no test;

— class B: test fuel I and de-icing chemicals;

— class C: test fuel II and de-icing chemicals;

— class D: liquid chemical as required.

5.13 Resistance to UV-ageing

The resistance to UV-ageing shall be determined in accordance with EN 14187-8 and the result shall conform to the relevant value given in Table 4, line 13.

5.14 Elastic recovery

The elastic recovery shall be determined in accordance with EN ISO 7389 and the result shall conform to the relevant value given in Table 4, line 12. The applied extension shall be (100 ± 2) %.

5.15 Resistance to flame

The resistance to flame shall be determined in accordance with EN 14187-7 and the result shall conform to the relevant value given in Table 4, line 9.

5.16 Dangerous substances

The manufacturer shall ensure that there are no emissions of any substances hazardous to health or the environment in excess of the legally permitted level in the member state of destination.

Table 4 — Requirements and test methods for cold applied joint sealants

Column	1	2	3
Line	Properties	Test method	Requirements
	Application properties		
1	Extrudability		
1.1	1-component sealants	EN 28394	≥70 ml/min
1.2	2-component sealants	EN 29048	≥70 ml/min
2	Rate of cure	EN 14187-1	declared value
3	Tack free time	EN 14187-2	declared value
4	Self levelling properties, Type sl	EN 14187-3	declared value
5	Resistance to flow, Type ns	EN ISO 7390	vertical slope ≤2 mm horizontal slope ≤2 mm
	Material properties		
6	Loss of volume	EN ISO 10563	≤5 % by volume
7	Change in mass and volume after immersion in liquid chemicals	EN 14187-4 class B, class C, class D	≤ – 25 % by mass, no increase ≤ ± 30 % by volume
8	Resistance to hydrolysis	EN 14187-5	change of hardness Shore A ≤ ± 50 %
9	Resistance to flame	EN 14187-7	no flow, cracking, flaking, hardening, ignition
	Functional properties		
10.1	Cohesion	EN ISO 9047	no failure at – 20 °C ≤0,6 MPa
10.2	Cohesion (for cold climate areas)	prEN 14187-9	no failure at – 30 °C ≤1,0 MPa
11	Bonding strength	EN 28340	tensile modulus at 100 % extension at 23 °C ≥0,15 MPa at – 20 °C ≤0,6 MPa
12	Elastic recovery	EN ISO 7389	≥ 70 %
13	Artificial weathering by UV irradiation	EN 14187-8	change of tensile modulus at 100 % extension ≤ ± 20 %
14	Adhesion/cohesion properties after immersion in liquid chemicals	EN 14187-6 class B, class C, class D	no failure

NOTE Sealants of all classes, which fulfil the requirements of Table 4, would have a total movement capability of, at least 25 %.

6 Evaluation of conformity

6.1 General

The compliance of the product with the requirements of this document shall be demonstrated by:

— Initial Type Testing;

— Factory Production Control by the manufacturer, including product assessment.

The characteristics indicated in Clause 5 shall be determined within 3 months of the date of delivery from the manufacturer.

For the purposes of testing, the product may be grouped into families, where it is considered that the selected property is common to all products within that family.

6.2 Type Testing

6.2.1 Initial Type Testing

Initial Type Testing shall be performed to show conformity with this document. Tests previously performed in accordance with the provisions of this document (same product, same characteristic(s), test method, sampling procedure, System of Attestation of Conformity, etc.) may be taken into account. In addition, Initial Type Testing shall be performed at the beginning of the production of a new product type (unless a member of the same family) or at the beginning of a new method of production (where this may affect the stated properties).

All characteristics in Clause 5 shall be subject to Initial Type Testing.

6.2.2 Further Type Testing

Whenever a change occurs in the product design, the raw material or supplier of the components, or the production process (subject to the definition of a family), which would change significantly one or more of the characteristics, the Type Tests shall be repeated for the appropriate characteristic(s).

6.3 Factory Production Control (FPC)

6.3.1 General

The manufacturer shall establish, document and maintain a FPC system to ensure that the products placed on the market conform with the stated performance characteristics. The FPC system shall consist of procedures, regular inspections and tests and/or assessments and the use of the results to control raw and other incoming materials or components, equipment, the production process and the product.

A FPC system conforming with the requirements of EN ISO 9001, and made specific to the requirements of this standard, is considered to satisfy the above requirements.

The results of inspections, tests or assessments requiring action shall be recorded, as shall any action taken. The action to be taken when control values or criteria are not met shall be recorded and retained for the period specified in the manufacturer's FPC procedures.

6.3.2 Frequency of testing

Minimum frequencies of testing for Factory Production quality control shall be as shown in Table A.1.

6.3.3 Equipment

Testing: All weighing, measuring and testing equipment shall be calibrated and regularly inspected according to documents procedure, frequencies and criteria.

Manufacturing: All equipment used in the manufacturing process shall be regularly inspected and maintained to ensure use, wear or failure does not cause inconsistency in the manufacturing process. Inspections and maintenance shall be carried out and recorded in accordance with the manufacturer's written procedures and the records retained for the period defined in the manufacturer's FPC procedures.

6.3.4 Raw materials and components

The specifications of all incoming raw materials and components shall be documented, as shall the inspection scheme for ensuring their conformity.

6.3.5 Non-conforming products

The manufacturer shall have written procedures which specify how non-conforming products shall be dealt with. Any such events shall be recorded as they occur and these records shall be kept for the period defined in the manufacturer's written procedures.

7 Marking, labelling and packaging

7.1 General

Each container of the cold applied joint sealant or primer shall be clearly and indelibly marked, giving as a minimum requirement the following information.

7.2 Cold applied joint sealant

a) manufacturer's name and address;

b) the number and date of this document;

c) polymer base of the sealant;

d) colour of the sealant;

e) system, type and class of the sealant in accordance with this specification;

f) movement capability declared by the manufacturer;

g) batch number;

h) temperature range for application;

i) type of primer if applicable;

j) date of manufacture;

k) storage stability;

l) directions for storage and disposal.

Where Clause ZA.3 covers the same information as required by this clause, the requirements of this clause are met.

7.3 Primer

a) manufacturer's name and address;

b) designation and batch number and date of manufacture;

c) expiry date;

d) type of sealant with which it is to be used;

e) directions for use;

f) directions for storage and disposal;

g) labelling according to national regulations related to dangerous substances and/or health and safety.

Where Clause ZA.3 covers the same information as required by this clause, the requirements of this clause are met. The location of marking in accordance with this clause shall not lead to confusion with the regulatory marking.

7.4 Containers

Cold applied joint sealants and primers shall be supplied in sealed packages which allow the sealant to be stored without detriment for the full shelf life under the manufacturer's recommended conditions.

Annex A
(normative)

Initial Type Testing and frequencies of testing for Factory Production Control

The minimum frequencies of testing for Factory Production quality control shall be as given in Table A.1.

Table A.1 — Initial Type Testing and frequencies of Factory Production Control

Column	1	2	3	4	5	6	7
Line	Product characteristic	Clause	Initial Type Testing	Factory Production Control			
				Minimum frequencies of testing per			
				batch	week	month	year
1	Extrudability	5.2	X	1			
2	Rate of cure	5.3	X				1
3	Tack free time	5.4	X	1			
4	Self levelling properties, Type sl	5.5	X	1			
5	Resistance to flow, Type ns	5.6	X	1			
6	Loss of volume	5.7	X				2
7	Change in mass and volume after immersion in test liquid	5.8	X [a]				2 [a]
8	Resistance to hydrolysis	5.9	X				1
9	Cohesion	5.10	X		1		1
10	Cohesion (for cold climate areas)	5.10	X				1
11	Bonding strength at 23 °C at – 20 °C	5.11	 X X		X		 2 2
12	Adhesion/cohesion properties at maintained extension after immersion in liquid chemicals	5.12	X [a]				2 [a]
13	Resistance to UV-ageing	5.13	X				
14	Elastic recovery	5.14	X		X		2
15	Resistance to flame	5.15	X				

[a] If classified as class B, C or D.

Annex B
(informative)

Example of a product data sheet

B.1 General information

General information are

— date and reference of this technical data sheet;

— product trade name;

— manufacturer/supplier;

— origin/source of manufacturing;

— description of the product;

— intended use and method of application;

— product performance[1)] (see Table B.1);

— certification mark where relevant;

— consumer information[2)].

1) See ZA.3 which limits the information to be given in association with CE marking.

2) E.g. restrictions concerning use and storage and safety precaution during installation and disposal.

Table B.1 — Information from testing

Column	1	2	3	4	5
Line	**Characteristic**	**Test method**	**Unit**	**Expression of result** [a]	**Value or statement** [b]
	Application properties				
1	Extrudability (ns-type)	EN ISO 8394 EN 29048	ml/min	MDV	
2	Rate of cure	EN 14187-1	min	MDV	
3	Tack free time	EN 14187-2	min	MDV	
4	Self levelling properties, Type sl	EN 14187-3	mm	MDV	
5	Resistance to flow, Type ns	EN ISO 7390	mm	MLV	
	Material properties				
6	Loss of volume	EN ISO 10563	%	MLV	
7	Change in mass and volume after immersion in liquid chemicals	EN 14187-4	%	MLV	
8	Resistance to hydrolysis	EN 14187-5	%	MLV	
9	Resistance to flame	EN 14187-7	—	pass	
	Functional properties				
10	Bonding strength	EN 28340	N/mm^2	MLV	
11	Cohesion	EN ISO 9047	N/mm^2	MLV	
12	Cohesion for cold climate areas	prEN 14187-9	N/mm^2	MLV	
13	Elastic recovery	EN ISO 7389	%	MLV	
14	Artificial weathering by UV irradiation	EN 14187-8	%	MLV	
15	Adhesion/cohesion properties after immersion in liquid chemicals	EN 14187-6	—	pass	

[a] MLV: Manufacturer's Limiting Value according to 3.1.
MDV: Manufacturer's Declared Value according to 3.2.

[b] To be completed by the manufacturer; — not relevant

Annex C
(informative)

Processing information for installation of cold applied joint sealants

C.1 The edges of the joint slot in the concrete pavement should be bevel cut at an angle of 45° and a width of 1 mm to 3 mm to avoid spalling and to ease the application.

C.2 Cold applied sealants in trafficked areas should be applied at the level of the lower end of the bevel cut to avoid contact with the tyres.

C.3 In order to provide sufficient hold for the back up material, sides of the joints should be parallel to accommodate the backing material and sealant.

C.4 The substrate (sides of the joints) should be solid and be capable of withstanding any tensile stresses induced by the sealant.

C.5 Backing material comprising cell-closed, non-degradable, circular foam sections should be used in order to limit the depth of the joint, to ensure proper adhesion to the joint interfaces and prevent any adhesion to the backing material. The backing material should have a smooth, convex profile and be flexible so that it can accommodate joint movement, allowing the sealant to expand and contract as needed. The diameter of the backing material should be 20 % (minimum) greater than the joint width to provide a sufficient hold in the joint slot and retain the self-levelling cold applied sealants in place within the joint.

C.6 Foam used for back-up material should be compatible with the sealant and not be water absorbent.

Backing materials should not contain any bitumen, oil or other substances, which could impair the sealant adhesion, nor should these materials cause bubbles to form within the sealant.

C.7 Back up material based on PE or PP with a specific weight of 35 kg/m^3 to 45 kg/m^3 have been proven for the application in joints in concrete pavements. The back-up material should be inserted to the depth required to maintain the appropriate width to depth sealant ratio.

C.8 When non sag type sealants, Type ns, are used, the substances for smoothing over surfaces of sealed joints should be chemically neutral, and should neither cause staining of sealants nor impair adhesion. Smoothing agents should not leave a film, as cracks could form in the sealant and cause failure.

C.9 When applying a sealant, the sealant manufacturer's instructions should be observed and any other technical information regarding the substrates taken into consideration.

C.10 Prior to the application of cold applied sealants the joint slot should be cleaned, e.g. by blowing out. The concrete surface of the joint must be dry and free of substances which could impair the adhesion of the cold applied sealant.

C.11 Cold applied sealants should not be applied when the temperature of joint at the interface is below 5 °C or above 40 °C. To avoid condensation the temperature of the concrete pavement around the joint has to be 3 K above the actual dew point, calculated from air temperature and relative humidity.

C.12 In joints in concrete pavements primers are recommended and mostly part of the sealing system. Only the identical primer of the tested sealing system can be used. The drying time and the pot life (for two-component primers) have to be followed.

Annex ZA
(informative)

Clauses of this European Standard addressing essential requirements or other provisions of EU Directives

ZA.1 Scope and relevant characteristics

This European Standard has been prepared under mandate M/124 Road construction products (as amended) given to CEN by the European Commission and the European Free Trade Association.

The clauses of this European Standard shown in this annex meet the requirements of the mandate given under the EU Construction Products Directive (89/106/EEC).

Compliance with these clauses confers a presumption of fitness of the hot applied joint sealants covered by this annex for the intended uses indicated herein; reference shall be made to the information accompanying the CE marking.

WARNING — Other requirements and other EU Directives, not affecting the fitness for intended uses, can be applicable to cold applied joint sealants falling within the scope of this European Standard.

NOTE 1 In addition to any specific clauses relating to dangerous substances contained in this Standard, there may be other requirements applicable to the products falling within its scope (e.g. transposed European legislation and national laws, regulations and administrative provisions). In order to meet the provisions of the EU Construction Products Directive, these requirements need also to be complied with, when and where they apply.

NOTE 2 An informative database of European and national provisions on dangerous substances is available at the Construction web site on EUROPA
(CREATE, accessed through http://europa.eu.int/comm/ enterprise/construction/internal/dangsub/dangmain.htm).

This annex has the same scope as Clause 1 of this standard with regard to the product covered. It establishes the conditions for the CE marking of cold applied joint sealants intended for the use indicated below and shows the relevant clauses applicable (see Table ZA.1).

Construction Product: Cold applied joint sealants.

Intended uses: roads, parking decks, bridge decks, airfields and other trafficked areas.

Table ZA.1 — Characteristics meeting Mandate M 124 given under CPD

Essential characteristics	Requirement clauses in this (or another) EN	Levels and/or classes [a]	NOTES
Bonding strength	5.11	—	threshold value
Cohesion	5.10		threshold value
Watertightness [b]	5.10	—	threshold value
	5.11	—	threshold value
Resistance to deformation	5.14	—	threshold value
	5.7	—	threshold value
Durability of watertightness against chemicals	5.8	—	threshold value
Durability of cohesion against liquid chemicals	5.12	—	pass-fail
Durability of all mandated characteristics against ageing	5.13	—	threshold value
Resistance to flame	5.15		pass-fail

[a] Means that no classes or levels are given by the mandate.

[b] Watertightness is given if the requirements on resistance to deformation are fulfilled. They are checked by using test methods contained in EN ISO 7389.

The requirement on a certain characteristic is not applicable in those Member States (MSs) where there are no regulatory requirements on that characteristic for the intended use of the product. In this case, manufacturers placing their products on the market of these Member States are not obliged either to determine nor to declare the performance of their products with regard to this characteristic and the option “No performance determined” (NPD) in the information accompanying the CE marking (see Clause ZA.3) may be used.

ZA.2 Procedure(s) for attestation of conformity

ZA.2.1 Systems of attestation of conformity

The systems of attestation of conformity of cold applied joint sealants indicated in Table ZA.1, in accordance with the Decision of the Commission 98/601/EC as given in annex III of the mandate M/124 and shown in Table ZA.2 for the indicated intended use and relevant classes.

Table ZA.2 — Systems of attestation of conformity

Product	Intended use	Level(s) or class(es)	Attestation of conformity systems
Cold applied joint sealants	on roads, airfields, bridge decks, parking decks etc.	None	4
System 4: See Directive 89/106/EEC (CPD) annex III.2. (ii), Third possibility.			

Table ZA.3 — Assignment of evaluation of conformity tasks for cold applied joint sealants under system 4

Tasks		Content of the task	Evaluation of conformity clauses to apply
Tasks for the manufacturer	Factory Production Control (FPC)	Parameters related to all relevant characteristics of Table ZA.1	6.3
	Initial Type Testing	All relevant characteristics of Table ZA.1	6.2

ZA.2.2 EC Certificate and declaration of conformity

This clause applies to the case of products under systems 4.

When compliance with the conditions of this annex is achieved, the manufacturer or his agent established in the EEA shall prepare and retain a declaration of conformity (EC Declaration of conformity), which entitles the manufacturer to affix the CE marking. This declaration shall include:

— name and address of the manufacturer, or his authorised representative established in the EEA, and the place of production;

— description of the product (type, identification, use), and a copy of the information accompanying the CE marking;

— provisions to which the product conforms (e.g. Annex ZA of this document);

— particular conditions applicable to the use of the product (e.g. provisions for use under certain conditions, etc);

— name of, and position held by, the person empowered to sign the declaration on behalf of the manufacturer or his authorised representative.

The above mentioned declaration and certificate shall be presented in the official language or languages of the Member State in which the product is to be used.

ZA.3 CE marking and labelling

The manufacturer or his authorised representative established within the EEA is responsible for the affixing of the CE marking. The CE marking symbol to affix shall be in accordance with Directive 93/68/EC. The CE marking symbol, the number of the EC certificate of factory production control and the information required by Clause 7 shall be shown on a label attached to the product.

The CE marking symbol shall also appear on the accompanying technical documentation, together with the following:

— name or identifying mark and registered address of the producer:

— the last two digits of the year in which the marking is affixed;

— reference to this document, EN 14188-2;

— a description of the product: cold applied joint sealants and intended use;

— information on the relevant characteristic values in Table ZA.1.

The NPD option shall not be used where the characteristic is subject to a threshold level.

Figure ZA.1 gives an example of the information to be given on the commercial documents.

CE	CE conformity marking, consisting of the "CE"-symbol given in directive 93/68/EEC.
AnyCo Ltd, PO Box 21, B-1050	Name or identifying mark and registered address of the producer
04	Last two digits of the year in which the marking was affixed
EN 14188-2	No. of European Standard
Cold applied joint sealant System: two-component (M) Type: self levelling (sl-type) Class: Class B Polymer base: Polysulfide	Description of product
Bonding strength — tensile modulus at – 20 °C [MPa]: 0,40 — adhesion/cohesion failure: none	and
Cohesion: — tensile modulus + 23 °C [MPa]: 0,28 — adhesion/cohesion failure: none — tensile modulus at – 20 °C [MPa]: 0,38 — adhesion/cohesion failure: none	information on regulated characteristics
Cohesion for cold climate (Note: alternative or additional) — tensile modulus to concrete at – 30 °C[MPa]: 0,66 — adhesion/cohesion failure: none	
Resistance to deformation Elastic recovery [%] 70 Loss of volume [%] 2	
Durability of watertightness against chemicals Change in mass [%] – 10 Change in volume [%] + 20	
Durability of cohesion against liquid chemical adhesion/cohesion failure: none	
Durability of all mandated characteristics against ageing — change of tensile modulus [%]: 5 — adhesion/cohesion failure: none	

Figure ZA.1 — Example CE marking information to be given on the accompanying commercial (technical) documentation for a product

In addition to any specific information relating to dangerous substances shown above, the product should also be accompanied, when and where required and in the appropriate form, by documentation listing any other legislation on dangerous substances for which compliance is claimed, together with any information required by that legislation. *Note European legislation without national derogations need not be mentioned.*

Bibliography

[1] Guidance paper F “Durability and the Construction Products Directive”

[2] Guidance paper D “CE marking under the Construction Products Directive”

[3] Guidance paper H “A harmonized approach to dangerous substances under the Construction products directive”

[4] Essential Requirements (ER) n° 3 “Hygiene, health and environmental protection” of the Council Directive of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to constructions products (89/106/EEC).

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