

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-18/1129
of 28 May 2020

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General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

XYPEX ADMIX C-1000 NF

Product family
to which the construction product belongs

Waterproofing admixture for concrete

Manufacturer

XYPEX
Chemical Corporation
13737 Mayfield Place
Richmond, British Columbia V6V 2G9
KANADA

Manufacturing plant

XYPEX
Chemical Corporation
13737 Mayfield Place
Richmond, British Columbia V6V 2G9
KANADA

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TSCHECHISCHE REPUBLIK

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GROSSBRITANNIEN

This European Technical Assessment
contains

7 pages including 1 annex which form an integral part of
this assessment

This European Technical Assessment is
issued in accordance with Regulation (EU)
No 305/2011, on the basis of

EAD 260026-00-0301

This version replaces

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Specific Part

1 Technical description of the product

The waterproofing admixture for concrete "XYPEX ADMIX C-1000 NF" is a powder. It reduces the water penetration into the concrete and increases the water impermeability of the concrete.

Active chemicals of the product react with the moisture in fresh concrete and with the by-products of cement hydration to cause a catalytic reaction. This reaction generates a non-soluble crystalline formation throughout the pores and capillary tracts of the concrete that permanently seals the concrete and prevents the penetration of water from any direction.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The waterproofing admixture "XYPEX ADMIX C-1000 NF" is intended to be used for preparation of concrete, mortar and other cementitious mixes for construction and for the manufacturing of precast construction products.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of concrete incorporating the waterproofing admixture "XYPEX ADMIX C-1000 NF" of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

Table 1 Mechanical resistance and stability (BWR 1)

Essential characteristic	Performance
Homogeneity	No segregation
Total chlorine	≤ 0,10 % by mass
Water soluble chloride	≤ 0,10 % by mass
Alkali content (Na ₂ O equivalent)	≤ 8,5 % by mass
Corrosion behaviour ¹	≤ 10 µA/cm ²
Air content and bulk density of fresh concrete ²	See Annex A, Table 2 Test mix ≤ 2 % by volume above control mix
Compressive strength ²	See Annex A, Table 3 Test mix ≥ 85 % of control mix
Increase of water impermeability of concrete ²	See Annex A, Table 4
Freeze-thaw resistance ³ (Method 1: CIF-Procedure)	See Annex A, Table 5
Freeze-thaw resistance with de-icing agent ³ (Method 1: CDF-Procedure)	See Annex A, Table 6
¹ : 1,3 times maximum recommended dosage: 19,5 g/kg cement ² : compliance dosage: 15 g/kg cement ³ : maximum recommended dosage: 15 g/kg cement	

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with EAD No. 260026-00-0301 the applicable European legal act is: 1999/469/EC(EU).

The system to be applied is: 2+

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 28 May 2020 by Deutsches Institut für Bautechnik

BD Dipl.-Ing. Andreas Kummerow
Head of Department

beglaubigt:
Bahlmann

Table 2: Air content and bulk density of fresh concrete

	Concrete I a	Concrete I b
Dosage of "XYPEX ADMIX C-1000 NF"	-	15 g/kg cement
Bulk density	2370 kg/m ³	2380 kg/m ³
Air content	0,8 % by volume	0,9 % by volume

Table 3: Compressive strength

	Concrete I a			Concrete I b		
Dosage of "XYPEX ADMIX C-1000 NF"	-			15 g/kg cement		
Compressive strength [N/mm ²]	45,6	44,6	44,9	46,2	45,0	45,7
	45,0			45,6		

Table 4: Increase of water impermeability of concrete

	Concrete I a			Concrete I b		
Dosage of "XYPEX ADMIX C-1000 NF"	-			15 g/kg cement		
Flow diameter [mm]	450			440		
Water penetration depth (maximum) [mm] Storage type H28	46	52	45	22	32	40
	48			31		
Water penetration depth (maximum) [mm] Storage type W28	35	30	35	-		
	33			-		

XYPEX ADMIX C-1000 NF

Results of performance assessment

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The freeze-thaw resistance was assessed with Method 1 (CIF-Procedure).

Table 5a: Compressive strength

	Concrete II a			Concrete II b		
Dosage of "XYPEX ADMIX C-1000 NF"	-			15 g/kg cement		
Air content in fresh concrete [% by volume]	3,8			3,8		
Compressive strength [N/mm ²]	52,6	53,9	53,6	54,6	54,4	53,9
	53,4			54,3		

Table 5b: Relative dynamic modulus of elasticity (RDM)

		Relative dynamic modulus of elasticity (RDM) in % after ... freeze thaw cycles	
		Concrete II a	Concrete II b
Dosage of "XYPEX ADMIX C-1000 NF"		-	15 g/kg cement
Freeze thaw cycles	0	100	100
	7	99,0	99,0
	14	98,3	98,1
	28	98,7	97,0
	42	99,2	94,1
	56	96,1	83,1

Table 5c: Scaling

		Scaling in g/m ² after ... freeze thaw cycles	
		Concrete II a	Concrete II b
Dosage of "XYPEX ADMIX C-1000 NF"		-	15 g/kg cement
Freeze thaw cycles	0	0	0
	7	14	10
	14	25	21
	28	50	42
	42	75	71
	56	102	98

XYPEX ADMIX C-1000 NF

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The freeze-thaw resistance with de-icing agent was assessed with Method 1 (CDF-Procedure).

Table 6a: Compressive strength

	Concrete III a			Concrete III b		
Dosage of "XYPEX ADMIX C-1000 NF"	-			15 g/kg cement		
Compressive strength [N/mm ²]	35,0	35,5	35,0	36,5	35,0	35,0
	35,0			35,5		

Table 6b: Scaling

		Scaling in g/m ² after ... freeze thaw cycles	
		Concrete III a	Concrete III b
Dosage of "XYPEX ADMIX C-1000 NF"		-	15 g/kg cement
Freeze thaw cycles	0	0	0
	4	52	71
	7	75	120
	14	127	232
	28	189	380

Table 6c: Relative dynamic modulus of elasticity (RDM)

		Relative dynamic modulus of elasticity (RDM) in % after ... freeze thaw cycles	
		Concrete III a	Concrete III b
Dosage of "XYPEX ADMIX C-1000 NF"		-	15 g/kg cement
Freeze thaw cycles	0	100	100
	4	96,8	96,2
	7	96,2	95,7
	14	95,0	94,5
	28	95,8	94,6

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Annex A
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