

Annex to declaration of accreditation (scope of accreditation)  
 Normative document: EN ISO/IEC 17025:2005  
 Registration number: **L 254**

of **Stichting Technisch Centrum voor de Keramische Industrie (TCKI)**  
**Laboratorium en Meetgroep**

This annex is valid from: **21-09-2017** to **01-11-2020**

Replaces annex dated: **29-09-2016**

**Location(s) where activities are performed under accreditation**

**Head Office**

Florijnweg 6  
 6883 JP  
 Velp (Gelderland)  
 The Netherlands

Location	Abbreviation/ location code
<u>Main Location</u> Florijnweg 6 6883 JP Velp (Gelderland) The Netherlands	VLP

No.	Material or product	Type of activity <sup>1</sup>	Internal reference number	Location
<b>Geometric properties</b>				
1	Masonry bricks	Determination of dimensions; calliper	ANA-KO-46 classification and the number of test specimens: in accordance with NEN-EN 771-1  measurement: in accordance with NEN-EN 772-16	VLP
2		Determination of stretcher face length and height and the camber of the stretcher face; calliper	ANA-KO-44 in accordance with BRL 1007, Annex 3B	VLP
3	Clay roof tiles	Determination of geometric properties; dimensions; calliper	ANA-KO-03 in accordance with NEN-EN 1024	VLP

This annex has been approved by the Board of the Dutch Accreditation Council, on its behalf,

J.A.W.M. de Haas  
 Director of Operations

<sup>1</sup> If there is a referral to a code starting with NAW, NAP, EA of IAF, this constitutes a scheme for which RvA-BR012 applies. The accepted version is mentioned on the list of schemes for which accreditation can be granted by the RvA.

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4		Determination of geometric properties; overlap dimensions; ruler	ANA-KO-18A, ANA-KO-18B in accordance with NEN-EN 1024, BRL 1510 chapter 3	VLP
5		Determination of geometric properties; non-camber/ twist; micrometers	ANA-KO-16 in accordance with NEN-EN 1024 BRL 1510 chapter 3	VLP
6	Clay pavers	Determination of dimensions; calliper	ANA-KO-04 in accordance with NEN-EN 1344	VLP
7		Determination of curvature; calliper	ANA-KO-44 in accordance with BRL 2360, Annex 1	
8	Ceramic tiles	Determination of dimensions; micrometer sand screw micrometer	ANA-KO-29 in accordance with NEN-EN-ISO 10545-2	

#### Mechanical provisions

9	Masonry bricks	Determination of compressive strength; destructive test	ANA-KO-37 classification and the number of test specimens: in accordance with NEN-EN 771-1  measurement: in accordance with NEN-EN 772-1	VLP
10	Clay roof tiles	Determination of flexural strength; destructive test	ANA-KO-17, APP-07 in accordance with NEN-EN 538	VLP
11	Clay pavers	Determination of transverse breaking load and modulus of rupture; destructive test	ANA-KO-14 in accordance with NEN-EN 1344	VLP
12	Clay pavers and en ceramic tiles	Determination of abrasion resistance; abrasion resistance meter	ANA-KO-24 in accordance with NEN-EN 1344 and NEN-EN-ISO 10545-6	VLP
13	Ceramic tiles	Determination of resistance to surface abrasion; surface abrasion resistance meter	ANA-KO-30 in accordance with NEN-EN-ISO 10545-7	VLP
14		Determination of modules of rupture and breaking strength; destructive test	ANA-KO-32 in accordance with NEN-EN-ISO 10545-4	VLP

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<b>Physical/hygric properties</b>				
15	Masonry bricks	Determination of volume of frog or voids; sand filling method, volumetric	ANA-KO-39, ANA-KO-46 classification and the number of test specimens: in accordance with NEN-EN 771-1  measurement: in accordance with NEN-EN 772-9	VLP
16	Masonry units	Determination of net volume and percentage of voids; gravimetrically	ANA-KO-39, ANA-KO-46, classification and the number of test specimens: in accordance with NEN-EN 771-1  measurement: in accordance with NEN-EN 772-3	VLP
17	Masonry units (except for natural stone)	Determination of net and gross dry density; gravimetrically	ANA-KO-39, ANA-KO-46 classification and the number of test specimens: in accordance with NEN-EN 771-1  measurement: in accordance with NEN-EN 772-13	VLP
18	Masonry bricks	Determination of initial rate of water absorption; gravimetrically	ANA-KO-38, ANA-KO-46 classification and the number of test specimens: in accordance with NEN-EN 771-1  measurement: in accordance with NEN-EN 772-11	VLP
19	Masonry bricks and clay pavers	Determination of cold water absorption; gravimetrically	ANA-KO-41 classification and the number of test specimens: in accordance with NEN-EN 771-1  classification and the number of test specimens: in accordance with BRL 2360  measurement: in accordance with NEN-EN 772-21	VLP

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20	Clay roof tiles	Determination of water-impermeability; permeability test	ANA-KO-15 in accordance with NEN-EN 539-1, method 2 and BRL 1510, chapter 3	VLP
21	Ceramic tiles	Determination of water absorption, apparent porosity, apparent relative density and bulk density; gravimetrically	AKA-KO-31 in accordance with NEN-EN-ISO 10545-3	VLP
22		Determination of crazing resistance; autoclave	ANA-KO-36 in accordance with NEN-EN-ISO 10545-11	VLP
23	Buildingmaterials and raw materials / additives	Determination of the expansion or shrinkage for a given temperature profile; dilatometry	APP-08, APP-44 in-house method	VLP
24	All unfired, fired and other porous materials applicable for the Ceramic Industry	Determination of the pore size distribution; mercury porosimetry	ANA-DI-16 in accordance with DIN 66133	VLP

**Determination freeze-thaw resistance**

25	Masonry bricks	Determination of freeze-thaw resistance; heat extraction by convection	ANA-KO-19 in accordance with NEN 2872 and BRL 1007 annex 4	VLP
26		Determination of freeze-thaw resistance; heat extraction by convection	ANA-KO-19 in accordance with NPR-CEN/TS 772-22  ANA-KO-19 in accordance with NPR/CEN/TS 772-22 and pre-treatment in accordance with NEN-EN 1344  ANA-KO-19 in accordance with DIN V52252-3  ANA-KO-19 in accordance with DIN V52252-3 and pre-treatment in accordance with NEN-EN 1344	VLP
27		Clay roof tiles	Determination of freeze-thaw resistance; heat extraction by convection	ANA-KO-19 in accordance with NEN-EN 539-2 (method E)

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28	Clay pavers	Determination of freeze-thaw resistance; heat extraction by convection	ANA-KO-19 in accordance with NEN-EN 1344	VLP
29	Ceramic tiles	Determination of freeze-thaw resistance; heat extraction by convection	ANA-KO-19 in accordance with NEN-EN-ISO 10545-12	VLP

#### Chemical-physical research

30	Masonry bricks	Determination of brick-efflorescence; visual inspection	ANA-KO-48 classification in accordance with NBN B 23-002  measurement in accordance with NBN B 24-209	VLP
31	Ceramic tiles	Determination of chemical resistance; interaction with chemicals and visual inspection	ANA-KO-28 in accordance with NEN-EN-ISO 10545-13	VLP
32	Ceramic tiles	Determination of resistance to staining; treatment with staining agents, cleaning and visual inspection	ANA-KO-35 in accordance with NEN-EN-ISO 10545-14	VLP

#### Gravimetric measurements

33	Raw materials (clay, sand and additives)	Determination of moisture content and/of density, dry and wet, gravimetrically	ANA-FY-01 in-house method	VLP
34		Determination of particle size distribution; pipette analysis and wet and dry sieving, gravimetrically  Pipette fractions 2, 10 and 16 µm sieving fractions 45, 63, 125 and 250 µm,	APP-01 in-house method	VLP
35	Raw materials (sand and additives)	Determination of grain size distribution of grainy material, dry sieving, gravimetrically  0,045; 0,063; 0,125; 0,250; 0,500; 1,0; 2,0 and 4,0 mm	ANA-DG-01 in-house method	VLP
36	Ceramic materials and raw materials (clay, sand and additives)	Determination of loss on ignition at 1025 °C; gravimetrically	ANA-DI-06 in-house method	VLP

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<b>Anorganic analyses</b>				
37	Raw materials (clay, sand and additives)	Determination of organic carbon; IR measurement of the amount of CO <sub>2</sub> released after incineration	ANA-DI-14 in-house method	VLP
38	Raw materials (clay, sand and additives)	Determination of total carbon; IR measurement of the amount of CO <sub>2</sub> released after incineration	ANA-DI-18 in house method	VLP
39	Watery solutions	Determination of pH; potentiometry	ANA-DI-04 in accordance with NEN-EN-ISO 10523	VLP
40		Determination of electrical conductivity; conductometry	ANA-DI-03 in accordance with NEN-ISO 7888	VLP
41	Ceramic materials and raw materials (clay, sand and additives)	Determination of sulphur after destruction with HClO <sub>4</sub> /HNO <sub>3</sub> ; ICP-AES	MVB-03 in-house method	VLP
42	Raw materials (clay, sand and additives)	Determination of water-soluble salts; ICP-AES  sodium, potassium, calcium, magnesium (expressed as oxides) and sulphur (expressed as sulphate)	MVB-11 in-house method	VLP
43	Masonry bricks	Determination of soluble salts; ICP-AES  sodium, potassium and magnesium	ANA-KO-45 in accordance with NEN-EN-772-5	VLP
44		Determination of soluble salts; ICP-AES  sulphur (expressed as sulphate) and calcium	ANA-KO-45 in-house method (sample pre-treatment in accordance with NEN-EN 772-5, eluate analysis in accordance with NEN 6966)	VLP

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45	Ceramic materials and raw materials (clay, sand and additives)	Determination of the composition of elements by X Ray fluorescence; Wave length dispersive XRF  silicon, aluminium, sodium, potassium, calcium, magnesium, iron, titanium, manganese, tin, molybdenum, strontium, lead, zinc, copper, nickel, cobalt, chromium, vanadium, barium, zircon and phosphor (expressed as oxides)  including loss on ignition at 1025 °C; gravimetrically	ELM-05, ANA-DI-06 XRF determination: in accordance with NEN-EN 15309  loss on ignition: in-house method	VLP
46	Raw materials (clay, sand and ceramic additives)	Determination of the composition of elements by X Ray fluorescence; Wave length dispersive XRF  iron, calcium, manganese, chromium and titanium (expressed as oxides)	ELM-08 in-house method	VLP
47	Glazed ceramic tiles	Determination of lead and cadmium release; ICP-AES	MVB-16 in accordance with NEN-EN-ISO 10545-15	VLP
48	Consumer pottery	Determination of lead and cadmium release; ICP-AES	MVB-16 in-house method (sample pre-treatment in accordance with NEN-EN 1388-1 eluate analysis in accordance with NEN-EN-ISO 10545-15)	VLP
<b>Leaching behaviour</b>				
a	Ceramic building materials	Determination of leaching of inorganic components of monolithic materials with the abbreviated leaching test.	MVB-13 in accordance with BRL 52230, chapter 4	VLP

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<b>AP04-verrichtingen</b> (versie 23-06-2016 AP04) (NAW-0132), <b>pakket U2 (uitloogonderzoek; vormgegeven bouwstoffen; diffusiebepaalde uitloging)</b> (versie 23-06-2016 U2) (NAW-0132-4) <b>volledig pakket (waarbij de bepaling van het gehalte aan cyaniden structureel uitbesteed wordt)</b>				
--	Moulded building materials	Sample treatment for AP04-U11 (and AP04-E)	MVB-13 in accordance with AP04-V	VLP
b		Determination of emission of inorganic components; tank test	MVB-13 in accordance with AP04-U-II and in accordance with NEN 7375	VLP
49	Eluates	Determination of pH; potentiometry	ANA-DI-04 in accordance with AP04-U-IV and in accordance with NEN-ISO 10523	VLP
50		Determination of electrical conductivity of an eluate; conductometry	ANA-DI-03 in accordance with AP04-U-V and in accordance with NEN-ISO 7888	VLP
51		Determination of the metal content; ICP-AES  lead, cadmium, zinc, nickel, arsenic, chrome, copper, molybdenum, barium, cobalt, vanadium and calcium	ELM-04 in accordance with AP04-E-I, -II, -III, -IV, -V, -VI, -VII, -IX, -X, -XII, -XV and -XIX and in accordance with NEN 6966	VLP
52		Determination of mercury content; hydride ICP-AES	ELM-04 in accordance with AP04-E-VIII and equivalent to NEN 7324	VLP
53		Determination of the metal content; hydride ICP-AES  tin, antimony en selenium	ELM-04 in accordance with AP04-E-XI, -XIII and -XIV and NEN 6966	VLP
54		Determination of calcium content; ICP-AES	ELM-04 in accordance with AP04-E-XIX and in accordance with NEN 6966	VLP
55	Eluates	Determination of anion content; ion-chromatography  bromide, chloride and sulphate	ELM-03 in accordance with AP04-E-XVII and in accordance with NEN-EN-ISO 10304-1	VLP



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56	Eluates	Determination of fluoride content; potentiometry	ANA-DI-15 in accordance with AP04-E-XVIII and in accordance with NEN 6578	VLP
<b>Emission measurement (CENTS 15675)</b>				
c	Emitted air and process gases	Review of measurement plane area (supporting measurement for the following emission measurements); homogeneity test	ANA-MGR-07 in accordance with NEN-EN 15259	VLP
57		Determination of air and flue-gas output; pitot-tube	ANA-MGE-01 in accordance with ISO 10780	VLP
58		Determination of dust content; isokinetic dust measurement	ANA-MGA-02 in-house method ANA-MGR-02 in accordance with NEN-EN 13284-1	VLP
59		Determination of moisture content; gravimetry	ANA-MGR-02 ANA-MGR-01 in accordance with NEN-EN 14790	VLP
60		Determination of chloride content; potentiometric titration / ion-chromatography (including associated sampling)	MVW-03, ANA-MGR-01, MVB-10, ELM-03 if sampling in water in accordance with NEN-EN-1911; otherwise equivalent to NEN-EN-1911	VLP
61		Determination of fluoride content; ion selective electrode (including associated sampling)	ANA-DI-15, MVW-03, ANA-MGR-01 if sampling in sodium hydroxide solution in accordance with ISO 15713; otherwise equivalent to ISO 15713	VLP
62		Determination of content of sulphur oxides; IC (including associated sampling)	MVW-03, ELM-03 TCKI method ANA-MGR-01 if sampling in water and peroxide in accordance with NEN-EN-14791; otherwise equivalent to NEN-EN-14791	VLP
63		Determination of sulphur dioxide content; infrared absorption (including associated sampling)	ANA-MGR-05 in accordance with NEN-ISO 7935	VLP

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64	Emitted air and process gases	Determination of content of nitrogen oxides on the basis of the determination of NO after conversion; infrared absorption (including associated sampling)	ANA-MGR-05 in accordance with NEN-ISO 10849, in accordance with NEN-EN-14792	VLP
65		Determination of hydrocarbon content; FID	ANA-MGR-05 in accordance with NEN-EN 12619	VLP
66		Determination of oxygen content; paramagnetism	ANA-MGR-05, ANA-MGR-06 in accordance with NEN EN 14789	VLP
67		Determination of carbon dioxide and / or carbon monoxide content; infrared absorption	ANA-MGR-05 in accordance with NEN-ISO 12039 and NEN-EN 15058	VLP

#### Work place atmosphere measurements

68	Air	Determination of total and respirable (fine) dust content in the work place; gravimetry  Measurements in situ	ANA-MGA-01, ANA-MGA-02 in-house method	VLP
69		Determination of (respirable) quartz content; FTIR	ANA-MGA-03 in accordance with NIOSH 7602	VLP

#### Analysis of surface areas and floorings

70	Floor covering material	Determination of anti-slip properties of floorings; dynamic coefficient of friction; tribometer  Measurements at the laboratory and in situ	ANA-KO-55 in accordance with CEN/TS 16165, DIN 51131, EN 14041, NEN 7909 and EN 13893	VLP
71		Determination of anti-slip properties of floorings; the maximum angle of the surface until slip occurs; ramp walking test	ANA-KO-54 in accordance with CEN/TS 16165, DIN 51097, DIN 51130, EN 13451-1 and EN13845	VLP

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72	Clay pavers	Determination of unpolished and polished slip and skid resistance; pendulum test	ANA-KO-23, ANA-KO-25 CEN/TS 16165, EN 1344, CEN/TS 12633, EN 1338(Annex I), EN1339(Annex I),EN 1340(Annex I), EN14231, NEN-EN 1341, NEN-EN 1342, NEN-EN 1343, CEN/TS 15676, EN 14904, EN 13036-4, BS 7976-1, BS 7976-2 and BS 7976-3.	VLP