	Determination/activity	Standard or guideline	Accepted time needed	Quantity needed
1	**Analysis of clay, additives and solutions**			
	General: Sample preparation and removal contribution (per sample)			
1.1.	**Physical analyses**			
1.1.1.	Moisture content and/or density	TCKI method	3 weekdays	150 g
1.1.2.	Particle size distribution			
	• Clay analysis: Loam, course sand, fine sand (resp. <10, >250 resp. 63-250 µm)	TCKI method	1 weekday	150 g
	• 2 µm	TCKI method	2 weeks	150 g
	• 16 µm	TCKI-methode	2 weken	150 g
	• 45 en 125 µm	TCKI-methode	2 weken	150 g
	• Total granular (2, 10, 16, 45, 63, 125, 250 µm)	TCKI method	2 weeks	500 g
	• Granular-curve (laser diffraction)	-	2 weeks	150 g
	• Sieve analysis, 8 fractions (0.045 - 4 mm)	TCKI method	1 week	500 g
		TCKI method		
1.1.3.	Seperation of solid particles	TCKI method	2 weeks	3000 g
1.1.4.	Separation of heavy minerals (for iron ore analysis)	TCKI method	2 weeks	1000 g
1.1.5.	Specific surface area	TCKI method	2 weeks	100 g
1.1.6.	Specific surface according to Blaine, including pycnometer density	EN 196-6	2 weeks	100 g
1.1.7.	Pore size distribution (Mercury porosimetry)	DIN 66133	2 weeks	100 g
1.1.8.	Consistency stability according Pfefferkorn	TCKI method	2 weeks	1000 g
1.1.9.	Plasticity index according to Atterberg	Std. RAW determinations: test 14	2 weeks	1000 g
1.1.10.	Moisture conductivity coefficient (k-value)	TCKI method	2 weeks	1000 g
1.1.11.	Total porosity (hydrostatic weighing)	TCKI method	2 weeks	250 g
1.1.12.a	Determination of the viscosity (reference measurement)	TCKI method	3 weeks	3 l

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
1.1.12.b	Determination of the viscosity (repeat measurement)	TCKI method	1 week	1.5 l
1.2.	**Chemical analysis**			
1.2.1.	Iron and calcium (XRF),digestion included	TCKI method	1 weekday	100 g
1.2.2.	Manganese, titanium chromium, barium, iron and calcium (XRF), digestion included	TCKI method	1 weekday	100 g
1.2.3.	Loss on ignition, 1025 °C	TCKI method	1 week	100 g
1.2.4.	Chemical composition Si, Al, Ca, Fe, Mg, K, Na, Mn, Ti, Cr, Ba, P, Co, Cu, Mo, Ni, Pb, Sn, Sr, V, Zn and Zr (XRF), loss on ignition 1025 °C and digestion included	EN 15309	1 week	100 g
1.2.5.	Eelement scan X-ray fluorescence	TCKI method	1 week	-
1.2.6.	Reduced iron and total iron in solids (spectrophotometry), digestion included	ISO 14719, method A	1 week	100 g
1.2.7.	Electron microscopy-element scan (SEM, TEM)	-	2 weeks	-
1.2.8.a	Leached: Shaken test for water soluble salts in dried clay (element determinations excluded)	TCKI method	1 week	250 g
1.2.8.b	Leached: Shake test for water soluble salts in dried clay (included SO_4, Na, Mg, K, Ca en geleiding)	TCKI method	1 week	250 g
1.2.9.	Packet water soluble salts; S, Ca, K, Na, Mg and electrical conductivity of the eluate, preparation excluded (ICP-AES and potentiometry)	TCKI method and ISO 7888	2 weeks	250 g
1.2.10.a	Element analysis, ICP-AES (per element; V, Mo, As, Ba, Ni, Cu, Pb, Zn, Co, Cr, Cd, Ca))	AP04-E (Different numbers)	1 week	100 g/100 ml
1.2.10.b	Element analysis, ICP-AES-hydride Sb, Sn, Se and Hg (per element)	AP04-E (Different numbers)	1 week	100 g/100 ml

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
1.2.10.c	Other elemental analysis ICP-AES	NEN 6966	2 weeks	100 g/100 ml
1.2.10.d	Microwave digestion	TCKI method	1 week	100 g
1.2.11.	Sulphur in clay or fired material (ICP-AES), digestion included	TCKI method	1 week	100 g/100 ml
1.2.12.	Electrical conductivity of an eluate (potentiometry)	ISO 7888	1 week	100 ml
1.2.13.	Fluorine (potentiometry ISE)	AP-04-E-XVIII and NEN 6578	1 week	100 ml
1.2.14.	Fluorine in raw materials or ceramics, digestion included (potentiometry ISE)	NEN 3106 and NEN 6578	1 week	100 g
1.2.15.	Chlorine in bubbler liquids (potentiometry)	EN 1911	1 week	250 ml
1.2.16.	CaO-bound CO_2 (Volumetry)	TCKI method	1 week	100 g
1.2.17.	Organic Carbon (Infra red)	TCKI method	1 weekday	100 g
1.2.18.	Total Carbon (Infra red)	TCKI method	2 weekdays	100 g
1.2.19.	pH of an aqueous solution (potentiometry)	ISO 10523	1 week	200 ml
1.2.20.	SO_4^{2-}(ion-chromatography)	AP04-E-XVII	1 week	100 ml
1.2.21.	Cl^- (ion-chromatography)	EN1911/ISO 10304-1	1 week	100 ml
1.2.22.	NO_3^-,PO_4^{3-} (ion-chromatography)	TCKI method	1 week	100 ml
1.2.23.	Br^- (ion-chromatography)	AP04-E-XVII	1 week	100 ml
1.2.24.	SO_x, bubbler bottles (ion-chromatography)	EN 14791	1 week	250 ml
1.2.25.	Combination of pH and the electrical conductivity of a liquid (diffusion test)	ISO 7888, ISO 10523, AP04-4-IV and AP04-4-V	1 week	200 ml

	Determination/activity	Standard or guideline	Accepted time needed	Quantity needed
1.2.26.	Water soluble Sulphate (as SO_4%), shake test excluded	TCKI method	2 weeks	250 g
1.3.	**Thermal analysis**			
1.3.1.a	Dilatometry, standard; 1 °C/ min. up to 1200 °C	TCKI method	2 weeks	100 g
1.3.1.b	Dilatometry; > 24 hours, program curve	TCKI method	2 weeks	100 g
1.3.1.c	Dilatometry; short, expansion-coefficient, up to 750 °C	TCKI method	1 week	100 g
1.3.1.d	Preparation of glaze stick for expansion coefficient measurement	TCKI method	1 week	100 g
1.3.1.e	Stress measurement ("Steger" measurement); 1 °C/ min. up to 1200 °C	TCKI method	2 weeks	Flat testpiece
1.3.1.f	Flex measurement; >2 hours, programme curve	TCKI method	2 weeks	100 g
1.3.1.g	Flex measurement; < 2 hours, shortened programme curve	TCKI method	2 weeks	100 g
1.3.2.	TGA/DSC (Thermogravimetric Analysis/Differential Scanning Calorimetry)	TCKI method	2 weeks	100 g
1.3.3.	Firing test; electric furnace	TCKI method	2 weeks	-
1.3.4.a	Firing test; gas fired kiln (oxidizing or reducing atmosphere), 0-24 h	TCKI method	2 weeks	-
1.3.4.b	Firing test; gas fired kiln (oxidizing or reducing atmosphere), 24-48 h	TCKI method	2 weeks	-
1.3.4.c	Firing test; gas fired kiln (oxidizing or reducing atmosphere), >48 h	TCKI method	2 weeks	-
1.4.	**Mineralogical analysis**			
1.4.1.	Qualitative (semi-quantitative) mineralogical composition (XRD)	TCKI method	2 weeks	10 g
1.4.2.	Qualitative (semi-quantitative) mineralogical composition, clay mineralogy (XRD)	TCKI method	5 weeks	100 g

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
1.5.	**Hydrophobic agent analyses**			
1.5.1.	Impregnation to investigate the hydrophobic agents	BRL 1154	6 weeks	10 l
1.5.2.	Penetration depth of the hydrophobic agent, per product per surface	BRL 1154	6 weeks	5 l
1.5.3.	Resistance against water absorption under low pressure, per product per subsoil	BRL 1154	6 weeks	5 l
1.5.4.	Water pressure resistance after artificial ageing, 3 products	BRL 1154, EN 10545-9	12 weeks	5l
1.5.5.	General appearence and color	TCKI method	1 week	1.5 l
1.5.6.	Determination of water vapour permeability, including impregnation (per type of stone)	EN-ISO 12572	12 weeks	10 l
1.5.7.	Determination of the active part of hydrophobic agent by drying	BRL 1154	3 weeks	0.5 l
1.5.8.	Determination of the active part in hydrophobic agents by complete hydrolysis	BRL 1154	2 weeks	0.5 l
1.5.9.	Determination of pH (indicator paper) of water based hydrophobic agent	TCKI method	1 week	100 ml
1.5.10.	Density Pykno meter	EN-ISO 2811-1	2 weeks	1 l
1.5.11.a	Chemical composition of the active content(s)	TCKI method	2 weeks	0.5 l
1.5.11.b	(Control of) chemical composition of the active content(s) of hydrophobic agent	TCKI method	2 weeks	0.5 l

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
2	**Analysis of products and materials**			
2.1.	**Dimensions and geometry**			
2.1.1.a	Dimensions/curvature; clay masonry bricks, per stretcher	EN 772-16	1 week	1 unit
2.1.1.b	Face sizes, stretcher; clay masonry bricks, per header	BRL 1007, Annex 2B	1 week	1 unit
2.1.1.c	Face sizes, header; clay masonry bricks	BRL 1007, Annex 2B	1 week	1 unit
2.1.2.	Determination of the flatness of the surfaces; masonry bricks	EN 772-20	1 week	1 unit
2.1.3.	Rectangularity of shape; clay masonry bricks	NBN B24-207	1 week	1 unit
2.1.4.	Dimensions; clay roof tiles	EN 1024	1 week	1 unit
2.1.5.a	Overlap dimensions; clay roof tiles	EN 1024 and BRL 1510	1 week	24 units
2.1.5.b	Overlap dimensions; clay roof tiles and fittings	EN 1024 and BRL 1510	1 week	12 units
2.1.6.	Camber and twist; clay roof tiles	EN 1024 and BRL 1510	1 week	1 unit
2.1.7.a	Dimensions; clay pavers	EN 1344	1 week	1 unit
2.1.7.b	Curvature; clay pavers (per face)	BRL 2360, Annex I	1 week	1 unit
2.1.8.	Geometric properties natural stone	EN 13373		20 units
2.1.9.a	Geometric properties; square wall and floor tiles, up to 60 x 60 cm	EN-ISO 10545-2	1 week	10 units
2.1.9.b	Geometric properties; oblong wall and floor tiles, with a maximum length of 60 cm	EN-ISO 10545-2	1 week	10 units
2.1.9.c	Surface quality; wall and floor tiles	EN-ISO 10545-2	1 week	30 units
2.1.10.	Webs and shells and combined thikness; perforated masonry bricks	EN 772-16	1 week	1 units

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
2.1.11.	Plane parallelism of the bed faces; mansonry bricks	EN 772-16	1 week	1 units
2.2.	**Mechanical properties**			
2.2.1.	Compressive strength; masonry bricks	EN 772-1	2 weeks	1 unit
2.2.2.	Compressive strength; natural stone	EN 1926	2 weeks	1 unit
2.2.3.	Splitting tensile strength; masonry bricks	EN 1996-1-1	2 weeks	1 unit
2.2.4.	Flexural strength; clay roof tiles	EN 538	2 weeks	1 unit
2.2.5.	Flexural strength; natural stone	EN 12372	2 weeks	1 unit
2.2.6.a	Skid and slip resistance, unpolished; paving and flooring materials	EN 1344/CEN/TS16165, EN1338, EN1339, EN1340, EN1341, EN14231, EN1342/ EN 1423, EN1343/EN13036-4, CEN/TS 15676, EN14904/ EN13036-4, BS 7976-1, 2 and 3	2 weeks	1 unit
2.2.6.b	Skid and slip resistance, polished; paving and flooring materials	CEN/TS 12633 (Polishing method)	2 weeks	1 unit
2.2.7.	Transverse breaking load and modulus of rupture; clay pavers	EN 1344	2 weeks	1 unit
2.2.8.	Resistance to deep abrasion (small wheel); clay pavers and unglazed tiles	EN 1344 and EN-ISO 10545-6	2 weeks	5 units
2.2.9.	Abrasion resistance; concrete blocks (broad wheel)	EN 1338	2 weeks	5 units
2.2.10.	Abrasion resistance; natural stone (borad wheel)	EN 14157	2 weeks	6 units
2.2.11.	Resistance to surface abrasion; glazed tiles	EN-ISO 10545-7	2 weeks	19 units
2.2.12.	Modules of rupture and breaking strength; ceramic tiles	EN-ISO 10545-4	2 weeks	1 unit

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
2.2.13.	4-Point flex test; masonry elements	EN 1052-2	2 weeks	1 unit mansonry
2.2.14.a	Adhesive strength of surface material/layer, per measurement position	EN 1015-12	2 weeks	30x30 cm
2.2.14.b	Adhesive strength of an entire strip, per measurement position	TCKI method	2 weeks	1 panel
2.2.14.c	Bond strength adhesives, per position (preparation not included)	EN 12004	10 weeks	30x30 cm
2.2.15.	Skid and slip resistance properties of floorings, ramp-walking method	CEN/TS16165 ANNEX A and ANNEX B, DIN 51130, DIN 51097, EN 13451-1, EN 13845	2 weeks	1 m^2
2.2.16.	Dynamic friction coefficient floor materials, GMG 200, per surface, per contamination	CEN/TS 16165 ANNEX D/DIN 51131, EN 14041, EN 13893, NEN 7909	2 weeks	1 m^2
2.2.17.	Impact resistance; ceramic tiles	ISO 10545-5	2 weeks	5 units
2.2.18.	Impact resistance, natural stone	EN 14158	2 weeks	6 units
2.2.19.	Resistance to thermal shock; unglazed tiles	ISO 10545-9	2 weeks	5 tiles
2.2.20.	Resistance to thermal shock; glazed tiles	ISO 10545-9	2 weeks	5 units
2.2.21.	Resistance to thermal shock, testpanel	TCKI method	2 weeks	1 panel
2.2.22.	Static point load; raised access floors	EN 12825	2 weeks	1 unit
2.2.23.	Hard body impact; raised floors	EN 12825	2 weeks	1 unit
2.2.24.	Scratch hardness of a surface according to Mohs	EN 101	2 weeks	3 units
2.2.25.	Adhesive strength of mortar to masonry bricks by a cross test (excluding preparation)	ASTM C952-12, BRL 1004	2 weeks	1 unit
2.2.26.	Determination of initial shear strength of horizontal mortar joints in masonry	EN 1052-3	2 weeks	1 unit

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
2.2.27.	Splitting or compressive strength of mortars and cements (excluding preparation)	EN 196-1, EN 1015-11	4 weeks	10000 g
2.2.28.	Impact resistance vertical elements and windows	Euro code 1, ISO 7892, BS 8298-1, EN 12600	4 weeks	2 m^2
2.2.29.	Determination of secant modulus of elasticity in compression	EN 12390-13	2 weeks	1 unit
2.2.30.	Splitting tensile strength; concrete paving block	EN 1338	2 weeks	1 unit
2.3.	**Physical/hygric properties**			
2.3.1.	Free or forced water absorption, gross and net dry density; clay masonry bricks and clay pavers.	EN 772-21, 772-3 and 772-13	2 weeks	1 unit
2.3.2.	Perforation volume of "frog" or voids; masonry bricks	EN 7772-9	2 weeks	1 unit
2.3.3.	Initial rate of water absorption; clay masonry bricks	EN 772-11	2 weeks	1 unit
2.3.4.	Water absorption natural stone bij at atmospheric pressure	EN 13755	2 weeks	6 units
2.3.5.	Density, apparent density, total and open porosity natural stone	EN 1935	2 weeks	6 units
2.3.6.	Water absorption by boiling in water; masonry bricks	EN 772-7	2 weeks	1 unit
2.3.7.	Water-impermeability; clay roof tiles	EN 539-1, method 2 and BRL 1510	2 weeks	10 units
2.3.8.	Water absorption, aparent porosity, apparent relative density, and bulk density; ceramic tiles	EN-ISO 10545-3	2 weeks	1 unit
2.3.9.	Progressive water absorption, roof tiles	TCKI method	2 weeks	1 unit
2.3.10.	Crazing resistance; glazed ceramics tiles	EN-ISO 10545-11	2 weeks	5 units

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
2.3.11.	Moisture movement, concrete masonry untis	EN 772-14	6 weeks	6 units
2.3.12.	Sensitivity to moisture expansion, ceramic tiles	EN-ISO 10545-10	2 weeks	5 units
2.3.13.	Optical condition of surfaces, pores and structures(microscopy)	TCKI method	1-4 weeks	1 unit
2.3.14.	Porige size distribution (Hg prosimetry): see 1.1.7.	TCKI method		
2.4.	**Frost resistance**			
2.4.1.	Freeze-thaw resistance; concrete bricks	BRL 1007 from 2010 and NEN 2872	10 weeks	4 units
2.4.2.	Freeze-thaw resistance; natural stone	EN 12371	10 weeks	7 units
2.4.3.	Freeze-thaw resistance; clay masonry bricks/test panel (maximum dimensions 650x450x95 mm)	NPR-CEN/TS 772-22 and DIN V 52252-3	10 weeks	20 units
2.4.4.	Freeze-thaw resistance; clay roof tiles	EN 539-2	10 weeks	6 units
2.4.5.	Freeze-thaw resistance; clay pavers	EN 1344	10 weeks	10 units
2.4.6.	Freeze-thaw resistance; ceramic tiles	EN-ISO 10545-12	10 weeks	10 units
2.4.7.	Freeze-thaw resistance with de-icing salts; concrete blocks	EN 1338	10 weeks	4 units
2.4.8.	Freeze-thaw resistance; calcium silicate masonry units	EN 772-18	10 weeks	6 units
2.5.	**Chemical/environmental properties**			
2.5.1.	Active water-soluble salts (Na, K, Mg, Ca, sulphate and electrical conductivity), shaking test included; clay masonry bricks	EN 772-5 and NEN 6966	4 weeks	10 units
2.5.2.	Effloresence; clay masonry bricks; only in combination with dimensions according to 2.1.1.a	NBN B24-209	3 weeks	6 units

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
2.5.3.	Acid resistance; clay pavers	EN 1344	2 weeks	5 units
2.5.4.a	Pb and Cd release; consumer pottery and ceramic tiles	EN 1388-1/EN-ISO 10545-15	2 weeks	1 unit
2.5.4.b	Pb and Cd release; consumer pottery and ceramic tiles	EN 1388-1/EN-ISO 10545-15	2 weeks	4 units
2.5.5.	Chemical resistance; ceramic tiles	EN-ISO 10545-13	2 weeks	5 units
2.5.6.	Resitance to staining; ceramic tiles	EN-ISO 10545-14	2 weeks	5 units
2.5.7.	Leaching behaviour, building materials, availibality test (element analysis excluded)	NEN 7371	4 weeks	3 units
2.5.8.a	Leaching behaviour, monolitic building materials, tank test (element analysis excluded and excluded pH and conduction)	NEN 7375/AP04-U-II, CEN/TS 166737-2	12 weeks	3 units
2.5.8.b	Leaching behaviour, granulair materials, tank test (element analysis excluded and excluded pH and conduction)	NEN 7347	12 weeks	2000 g
2.5.9.	Leaching behaviour, monolitic building materials, short tank test (element analysis, and pH conductivity excluded)	BRL 52230	3 weeks	3 units
2.5.10.	Leaching behaviour, granulated building materials, column test (element analysis excluded, and pH conductivity excluded)	NEN 7373, CEN/TS 16637-3, DIN 19528	10 weeks	2000 g
2.5.11.	Leach: Shake test stomach acid pH 1.5 (excluding elemental analysis and excl. PH and conductivity)		1 week	1000 g
2.5.12.	Light and colour fastness; ceramic tiles	DIN 51094	6 weeks	5 units
2.5.13.	Colour, gloss, (sun)ligth absorption/reflection of a surface	ASTM C609-07	2 weeks	10x10 cm
2.5.14.	Determination of resistance to chemical corrosion glazes	ISO 28706-2	4 weeks	4 units

Determination/activity		Standard or guideline	Accepted time needed	Quantity needed
3	**Miscellaneous**			
3.1.	Binder in mortar	TCKI method	2 weeks	150 g
3.2.	Preparation of bubbler bottles for (flue) gas (emission) measurements	NEN 2819, EN 14791 or EN 1911, CEN/TS 15675	-	-