

Karlsruhe Library of Urban Materials

Rebecca Ilehag
Institute of Photogrammetry and Remote Sensing
Karlsruhe Institute of Technology

Version 1.0
August 2019

Introduction

Karlsruhe Library of Urban Materials (KLUM) is a spectral library that contains 181 material samples and consists of 12 materials and 33 subclasses (see Table 1). KLUM was acquired in-situ during the summer of 2018 in Karlsruhe, Germany. The methodology, data post-processing and clustering of the samples are described in Illehag et al. (2019). This document provides an overview of all 181 samples with their corresponding metadata and image.

Table 1: Material classes available in KLUM

Class	Index	Count
Asphalt	A	4
Brick (clay)	B	14
Mortar	C	3
Ceramic	D	45
Concrete	E	38
Granite	F	16
Limestone	G	9
Metal	H	10
Plaster	I	12
Sandstone	J	12
Conglomerate	K	11
Wood	L	7

The spectral library is available for download at:

<https://github.com/rebeccailehag/KLUM>

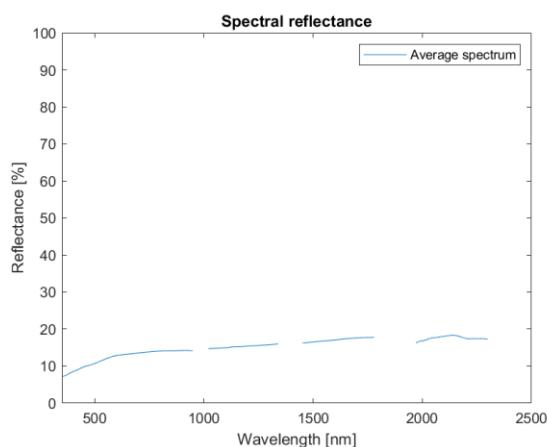
Reference:

Illehag, R., Schenk, A., Huang, Y., Hinz, S. KLUM: An urban VNIR and SWIR spectral library consisting of building materials, 2019

Content

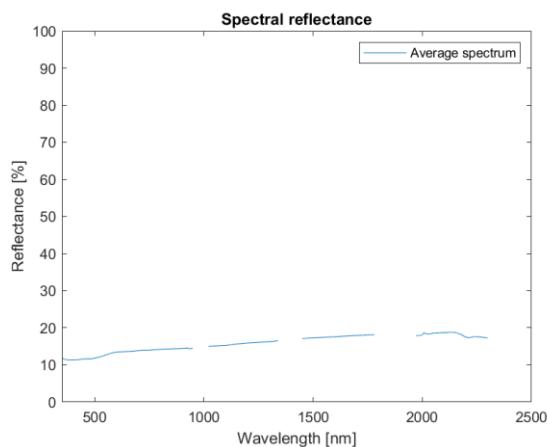
Class	Subclass	Index	Page
Asphalt			
	• Grey asphalt	A1	4
Brick			
	• Red brick	B0	6
	• Beige brick	B1	10
	• Painted brick	B2	12
Mortar			
	• Grey mortar	C0	13
Ceramic			
	• Glazed ceramic (bricks)	D0	14
	• Dark reflective ceramic	D1	16
	• Glazed ceramic (roof tiles)	D2	19
	• Red matte ceramic	D3	25
	• Dark matte ceramic	D4	29
	• Black glazed ceramic	D5	32
	• Grey ceramic	D6	34
Concrete			
	• Bright concrete (ground bricks)	E0	37
	• Grey concrete (blocks)	E1	40
	• Weathered porous concrete	E2	43
	• Bright concrete	E3	45
	• Grey concrete	E4	47
	• Painted concrete	E5	52
Granite			
	• Biotite granite	F0	56
	• Muscovite granite	F1	60
Limestone			
	• White limestone	G0	64
	• Colored limestone	G1	66
Metal			
	• Paint-sprayed metal	H0	68
	• Painted metal	H1	72
Plaster			
	• Weathered bright plaster	I0	73
	• Colored plaster	I1	75
	• Bright plaster	I2	77
Sandstone			
	• Red sandstone	J0	79
	• Weathered sandstone	J1	81
	• Beige sandstone	J2	84
Conglomerate			
	• Conglomerate	K0	85
Wood			
	• Varnished wood	L0	91
	• Painted wood	L1	92

Asphalt - A001



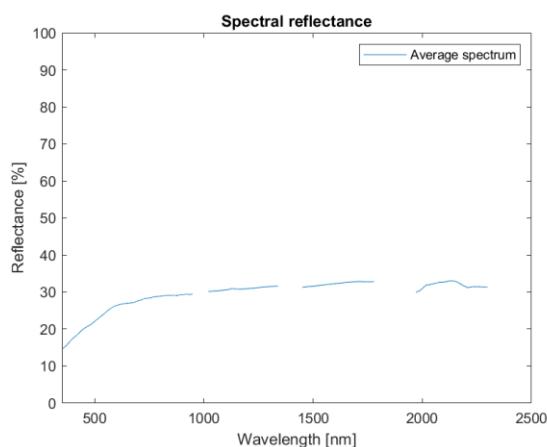
Index	A001
Class	Asphalt
Subclass	Grey asphalt
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Asphalt - A002



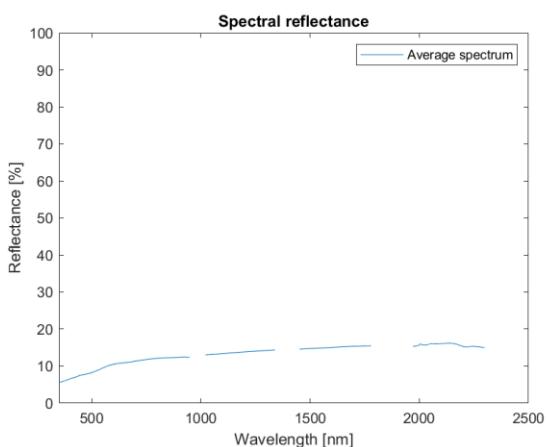
Index	A002
Class	Asphalt
Subclass	Grey asphalt
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Asphalt - A003



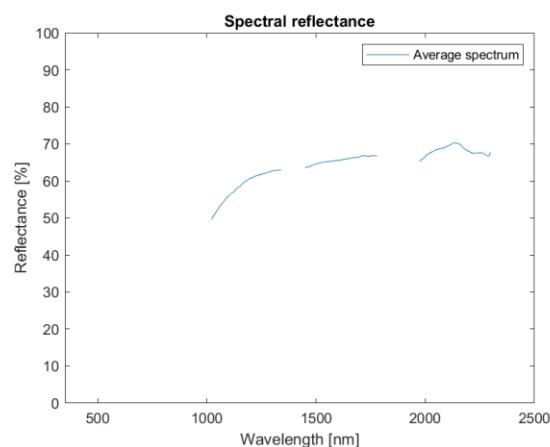
Index	A003
Class	Asphalt
Subclass	Grey asphalt
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Asphalt - A004



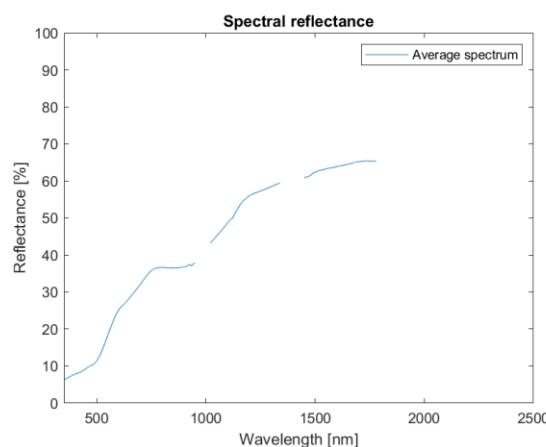
Index	A004
Class	Asphalt
Subclass	Grey asphalt
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Brick (clay) - B001



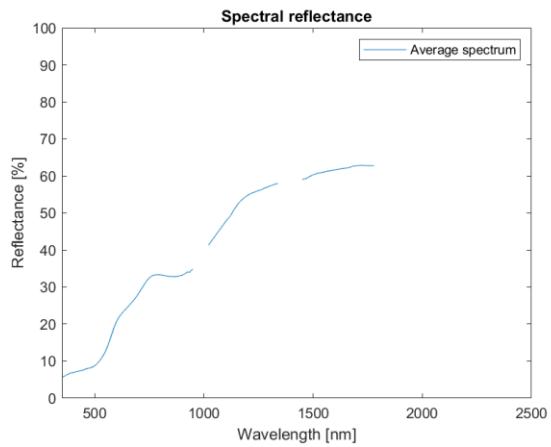
Index	B001
Class	Brick (clay)
Subclass	Red brick
Usage	Facade
Color	Red
Surface structure/texture/coating	Fine roughness
Status	New

Brick (clay) - B002



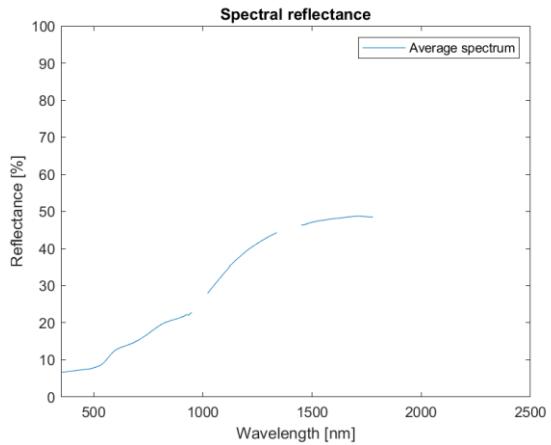
Index	B002
Class	Brick (clay)
Subclass	Red brick
Usage	Facade
Color	Red
Surface structure/texture/coating	Fine roughness
Status	New

Brick (clay) - B003



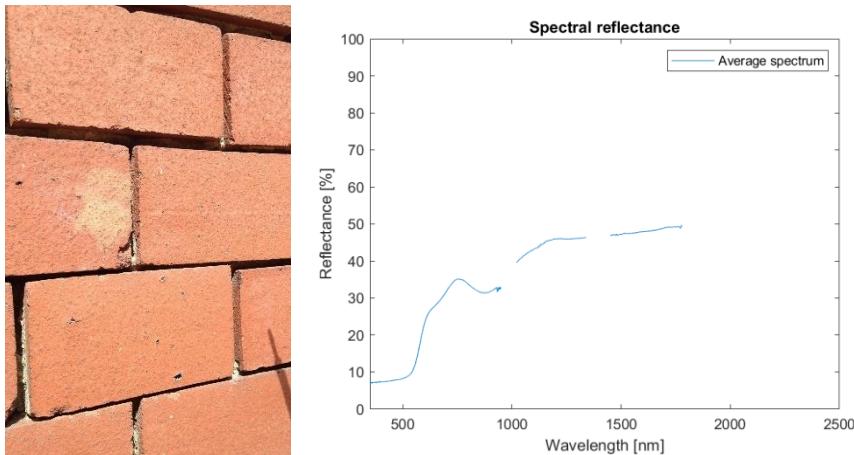
Index	B003
Class	Brick (clay)
Subclass	Red brick
Usage	Facade
Color	Red
Surface structure/texture/coating	Fine roughness
Status	New

Brick (clay) - B004



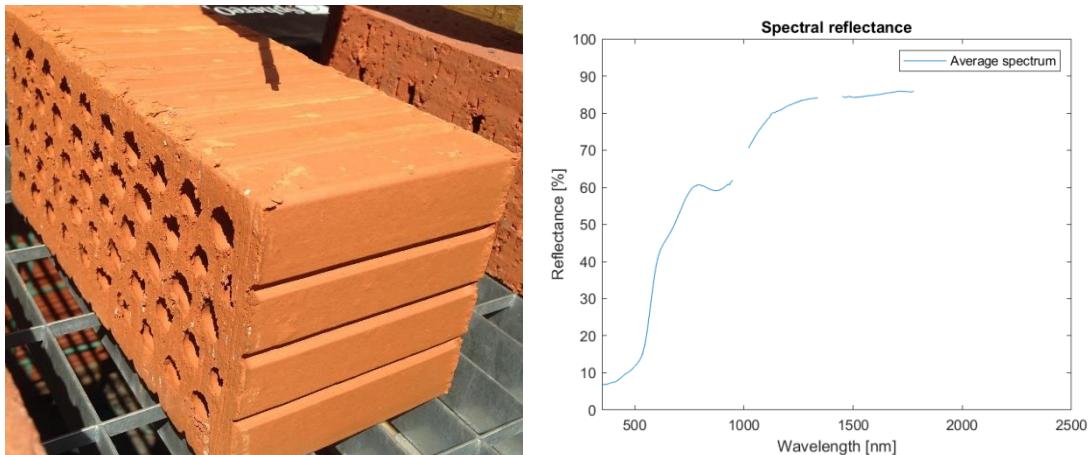
Index	B004
Class	Brick (clay)
Subclass	Red brick
Usage	Ground
Color	Red
Surface structure/texture/coating	Fine roughness
Status	Weathered

Brick (clay) - B005



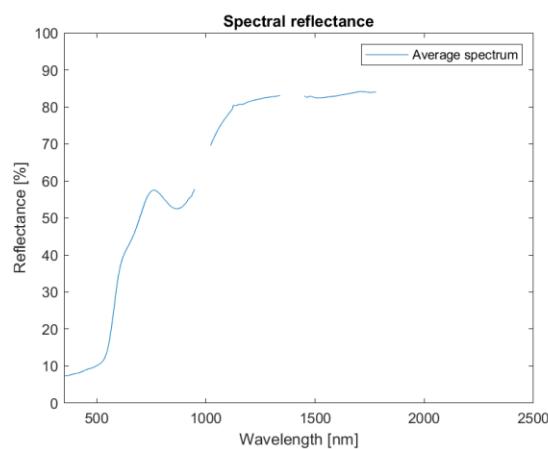
Index	B005
Class	Brick (clay)
Subclass	Red brick
Usage	Facade
Color	Red
Surface structure/texture/coating	Smooth
Status	New

Brick (clay) - B006



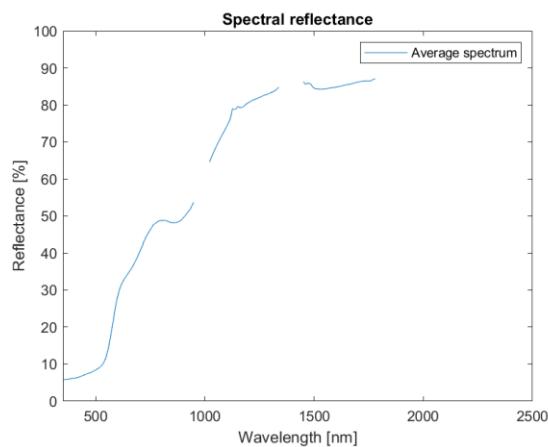
Index	B006
Class	Brick (clay)
Subclass	Red brick
Usage	Facade
Color	Red
Surface structure/texture/coating	Bare, smooth
Status	New

Brick (clay) - B007



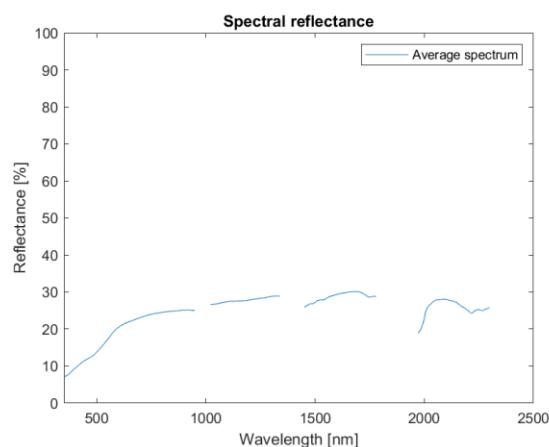
Index	B007
Class	Brick (clay)
Subclass	Red brick
Usage	Facade
Color	Red
Surface structure/texture/coating	Bare, smooth
Status	New

Brick (clay) - B008



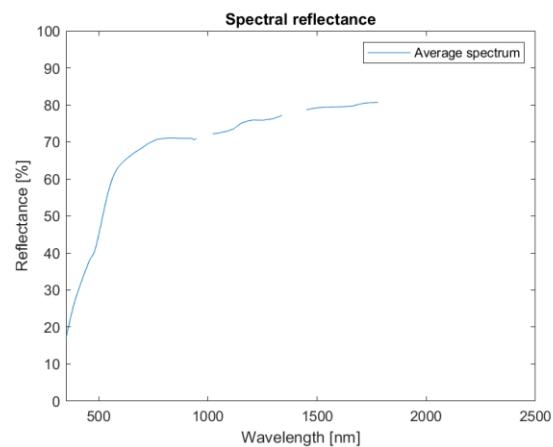
Index	B008
Class	Brick (clay)
Subclass	Red brick
Usage	Facade
Color	Red
Surface structure/texture/coating	Bare, smooth
Status	New

Brick (clay) - B101



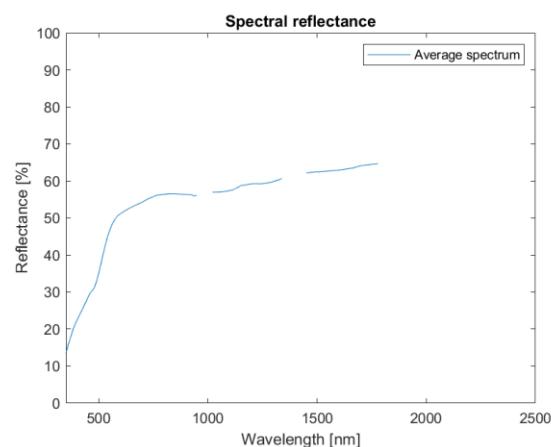
Index	B101
Class	Brick (clay)
Subclass	Beige brick
Usage	Facade
Color	Beige
Surface structure/texture/coating	Smooth
Status	Weathered

Brick (clay) - B102



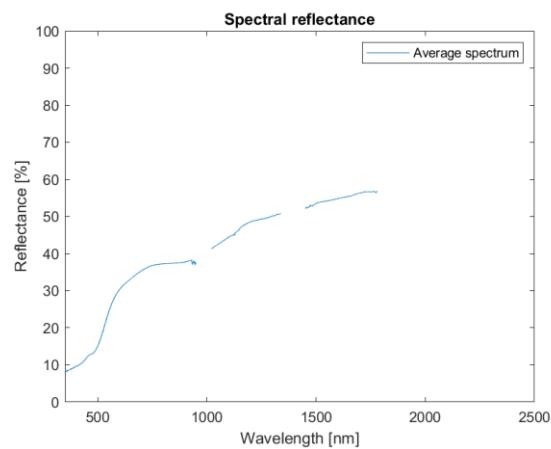
Index	B102
Class	Brick (clay)
Subclass	Beige brick
Usage	Facade
Color	Beige
Surface structure/texture/coating	Smooth
Status	Weathered

Brick (clay) - B103



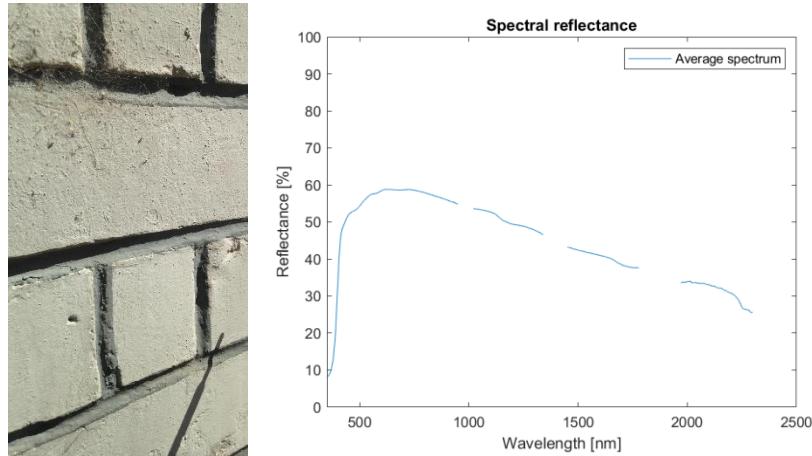
Index	B103
Class	Brick (clay)
Subclass	Beige brick
Usage	Facade
Color	Beige
Surface structure/texture/coating	Smooth
Status	Weathered

Brick (clay) - B104



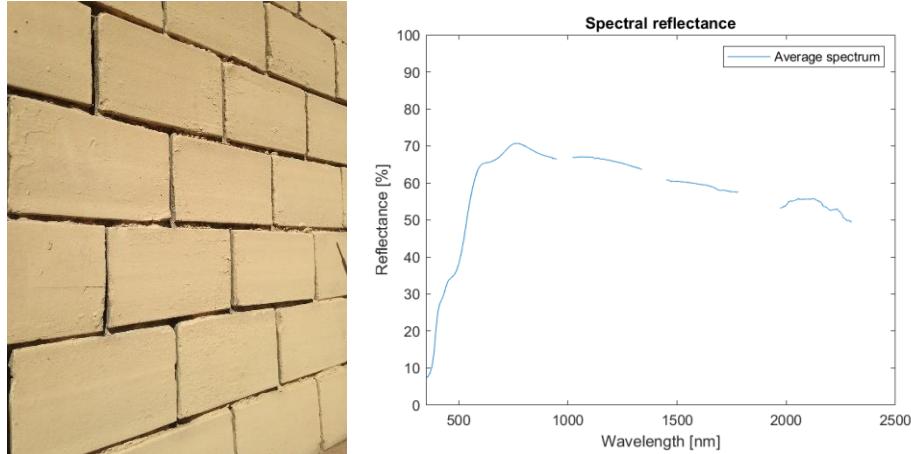
Index	B104
Class	Brick (clay)
Subclass	Beige brick
Usage	Facade
Color	Beige
Surface structure/texture/coating	Fine roughness
Status	Weathered

Brick (clay) - B201



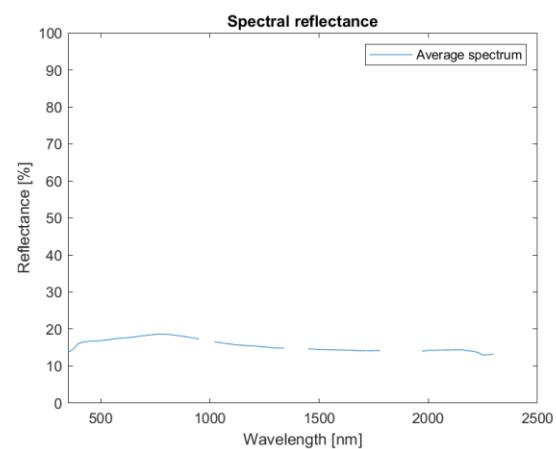
Index	B201
Class	Brick (clay)
Subclass	Painted brick
Usage	Facade
Color	Grey
Surface structure/texture/coating	Fine roughness, painted
Status	Weathered

Brick (clay) - B202



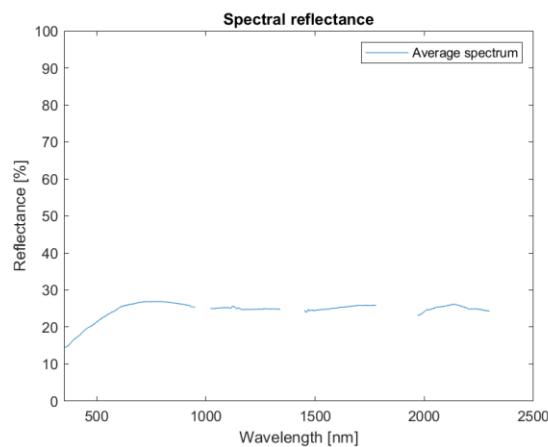
Index	B202
Class	Brick (clay)
Subclass	Painted brick
Usage	Facade
Color	Beige
Surface structure/texture/coating	Smooth, painted
Status	New

Mortar – C001



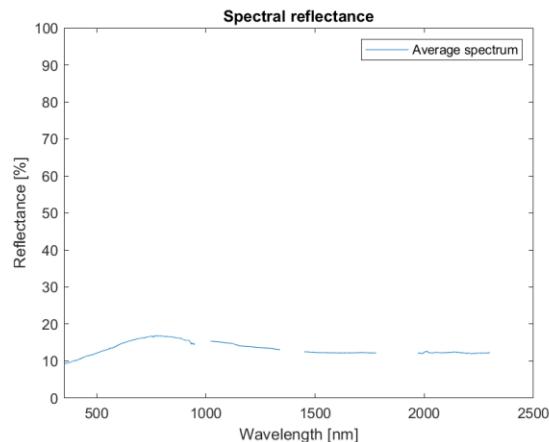
Index	C001
Class	Mortar
Subclass	Grey mortar
Usage	Facade
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	New

Mortar – C002



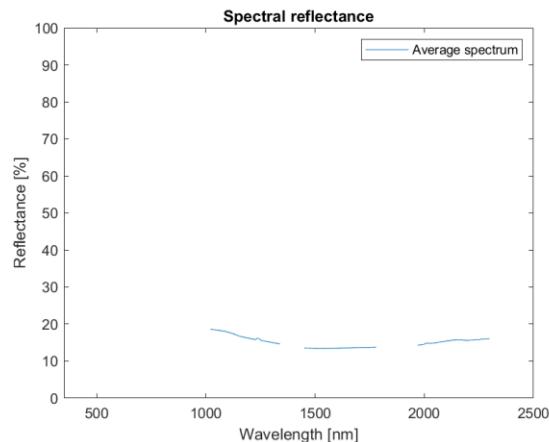
Index	C002
Class	Mortar
Subclass	Grey mortar
Usage	Facade
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	New

Mortar – C003



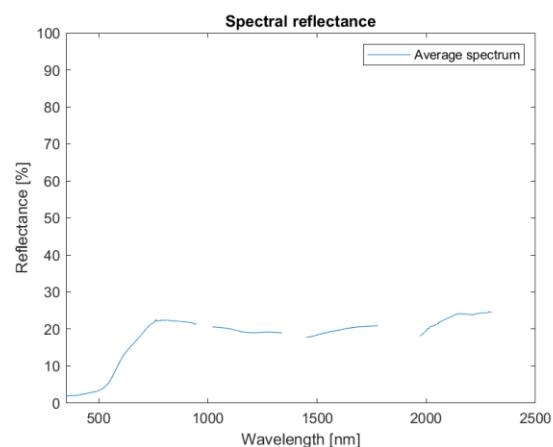
Index	C003
Class	Mortar
Subclass	Grey mortar
Usage	Facade
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	New

Ceramic – D001



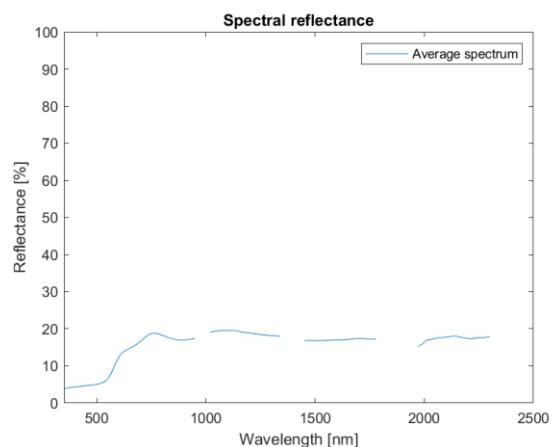
Index	D001
Class	Ceramic
Subclass	Glazed ceramic (bricks)
Usage	Facade
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D002



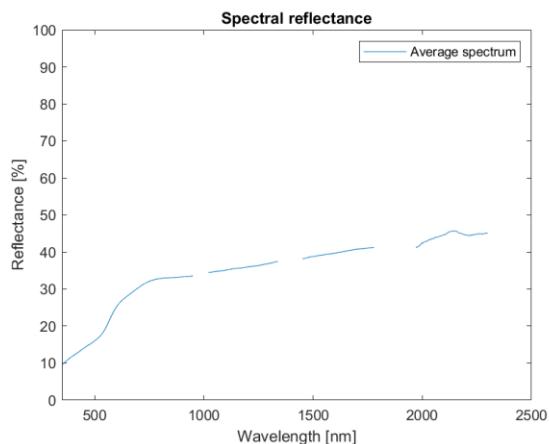
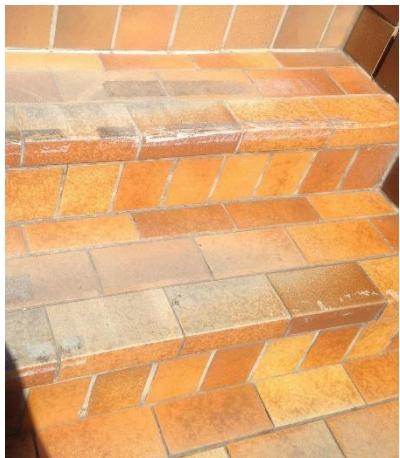
Index	D002
Class	Ceramic
Subclass	Glazed ceramic (bricks)
Usage	Facade
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D003



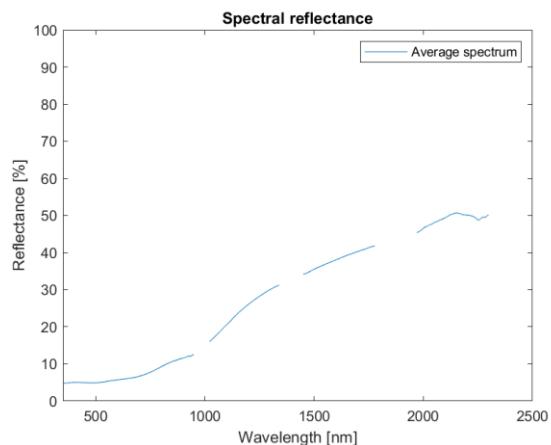
Index	D003
Class	Ceramic
Subclass	Glazed ceramic (bricks)
Usage	Facade
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D004



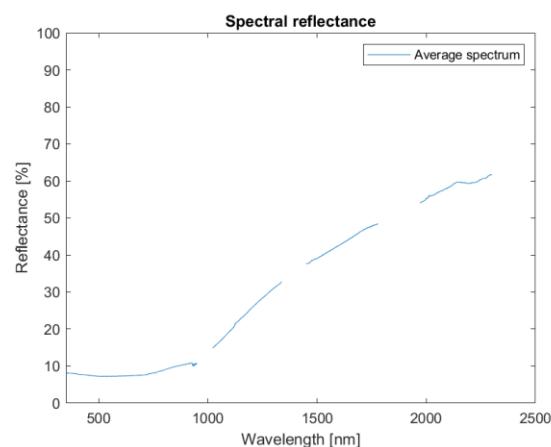
Index	D004
Class	Ceramic
Subclass	Glazed ceramic (bricks)
Usage	Facade
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	Weathered

Ceramic - D101



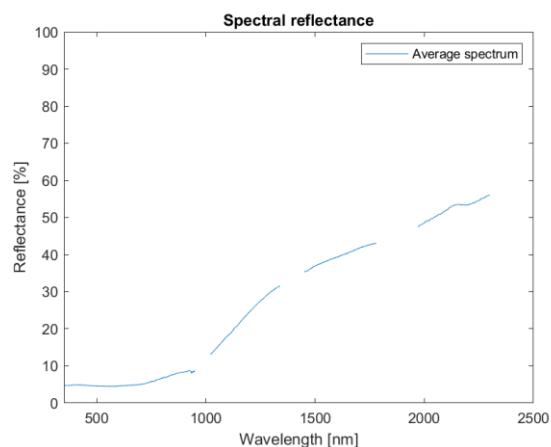
Index	D101
Class	Ceramic
Subclass	Dark reflective ceramic
Usage	Facade
Color	Black
Surface structure/texture/coating	Smooth, reflective
Status	New

Ceramic - D102



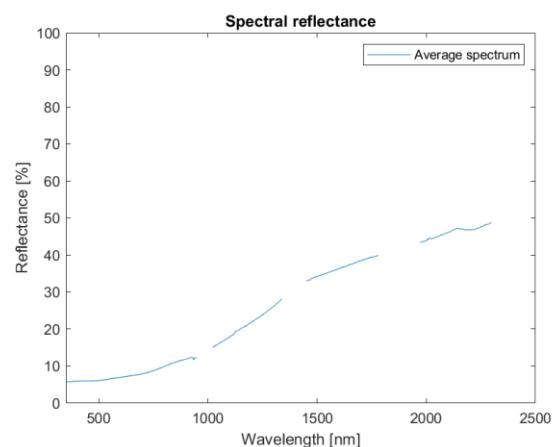
Index	D102
Class	Ceramic
Subclass	Dark reflective ceramic
Usage	Facade
Color	Black
Surface structure/texture/coating	Smooth, reflective
Status	New

Ceramic - D103



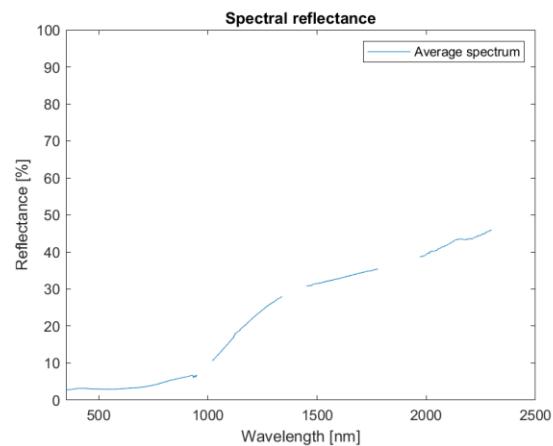
Index	D103
Class	Ceramic
Subclass	Dark reflective ceramic
Usage	Roof
Color	Grey
Surface structure/texture/coating	Smooth, reflective
Status	New

Ceramic - D104



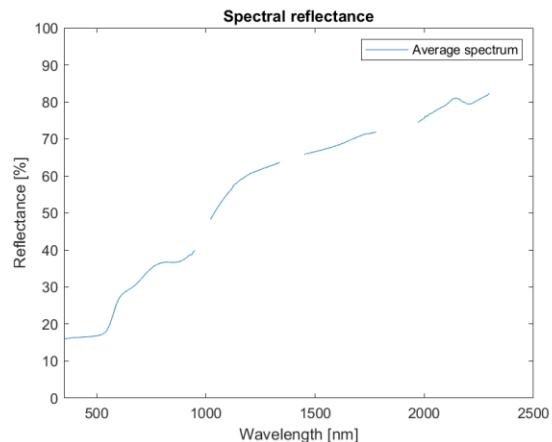
Index	D104
Class	Ceramic
Subclass	Dark reflective ceramic
Usage	Roof
Color	Grey
Surface structure/texture/coating	Smooth, reflective
Status	New

Ceramic - D105



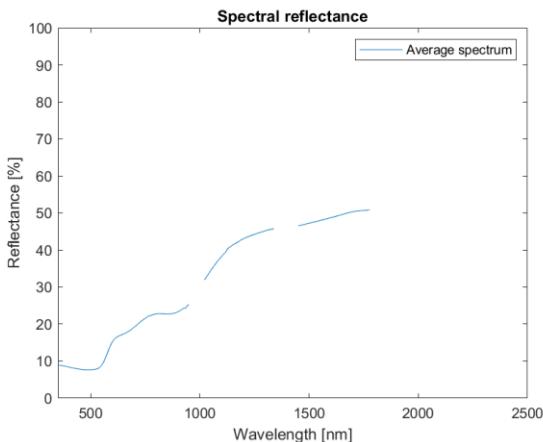
Index	D105
Class	Ceramic
Subclass	Dark reflective ceramic
Usage	Roof
Color	Grey
Surface structure/texture/coating	Smooth, reflective
Status	New

Ceramic - D201



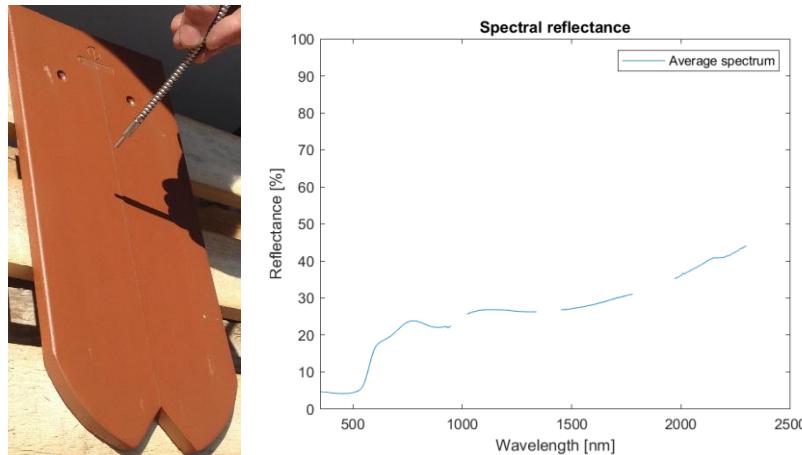
Index	D201
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D202



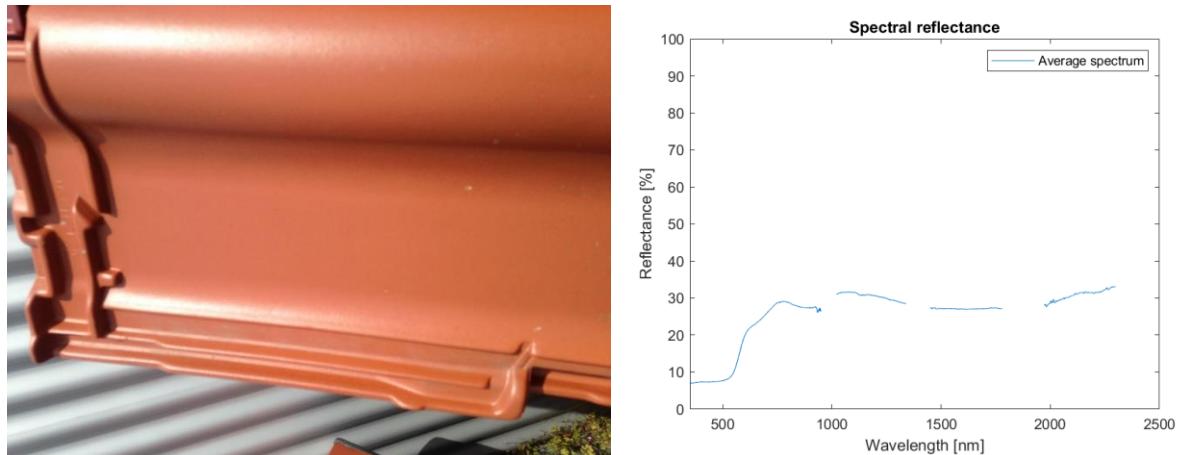
Index	D202
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D203



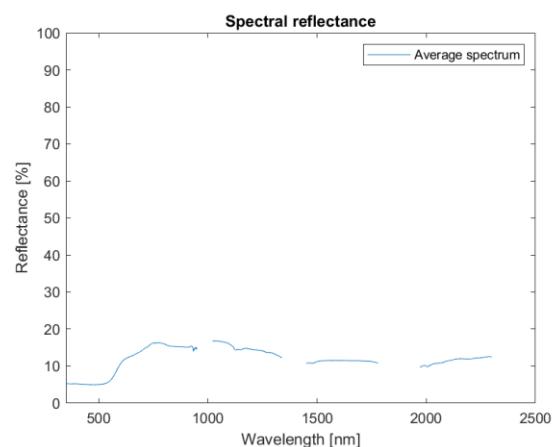
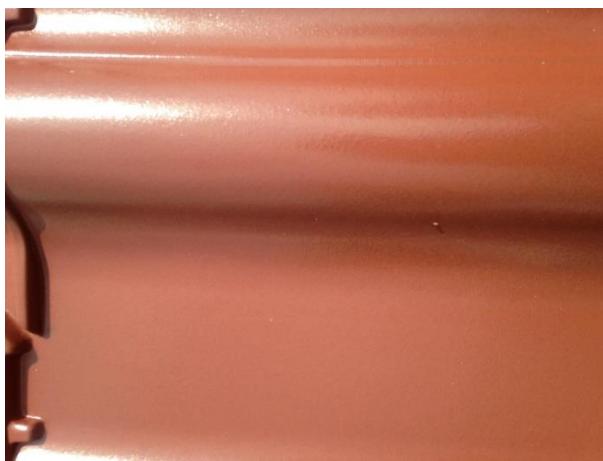
Index	D203
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D204



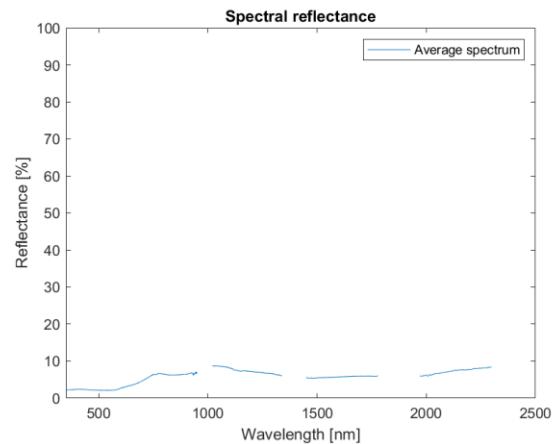
Index	D204
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D205



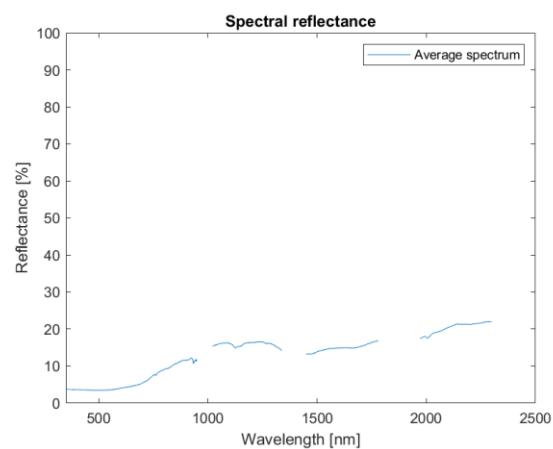
Index	D205
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D206



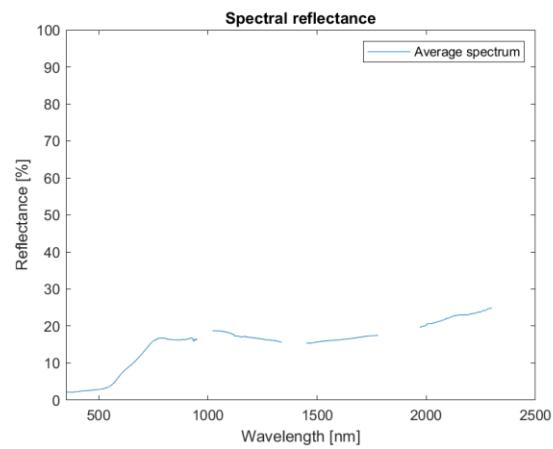
Index	D206
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D207



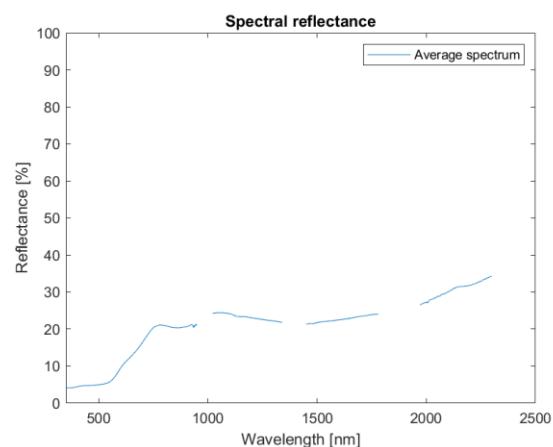
Index	D207
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Brown
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D208



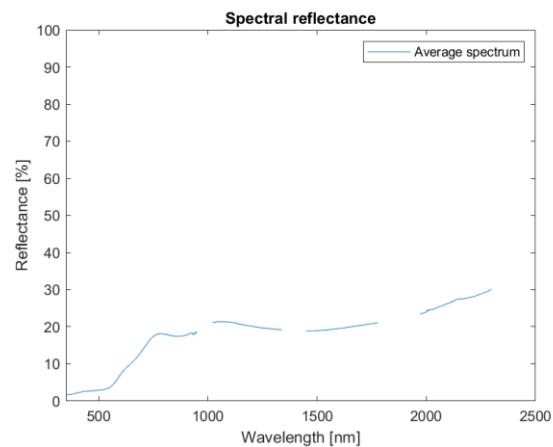
Index	D208
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D209



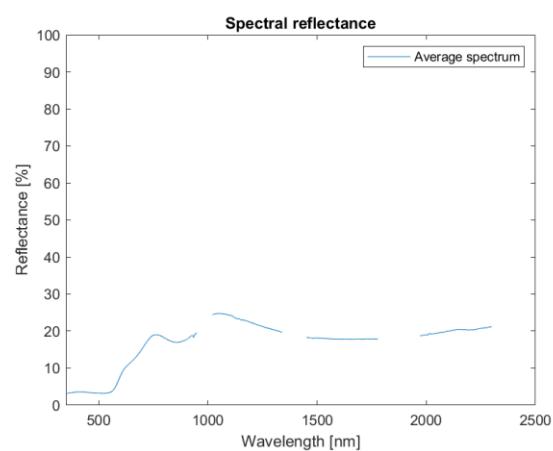
Index	D209
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D210



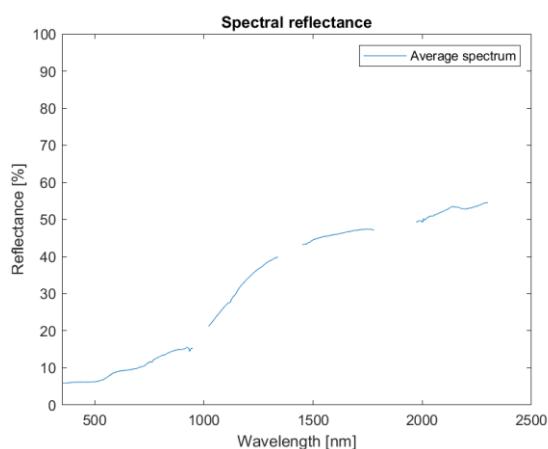
Index	D210
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D211



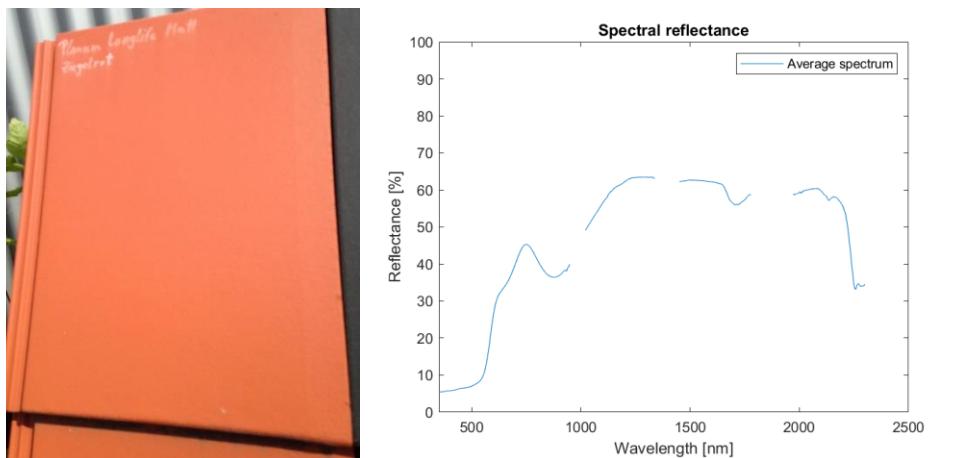
Index	D211
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D212



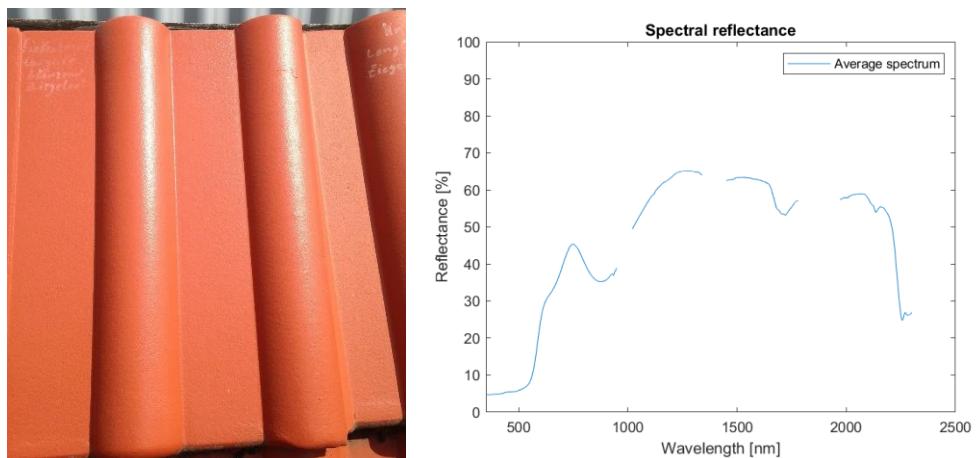
Index	D201
Class	Ceramic
Subclass	Glazed ceramic (roof tiles)
Usage	Roof
Color	Beige
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D301



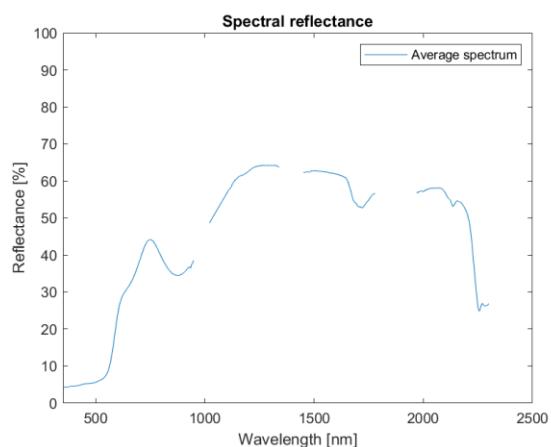
Index	D301
Class	Ceramic
Subclass	Red matte ceramic
Usage	Roof
Color	Red
Surface structure/texture/coating	Smooth, matte
Status	New

Ceramic - D302



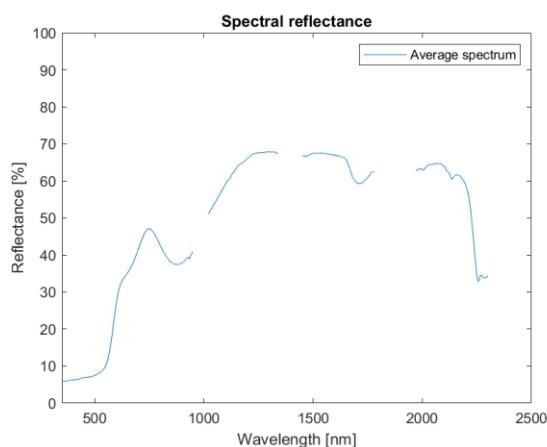
Index	D302
Class	Ceramic
Subclass	Red matte ceramic
Usage	Roof
Color	Red
Surface structure/texture/coating	Smooth, matte
Status	New

Ceramic - D303



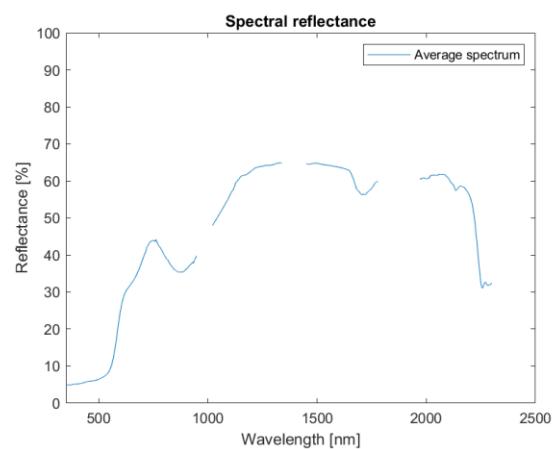
Index	D303
Class	Ceramic
Subclass	Red matte ceramic
Usage	Roof
Color	Red
Surface structure/texture/coating	Smooth, matte
Status	New

Ceramic - D304



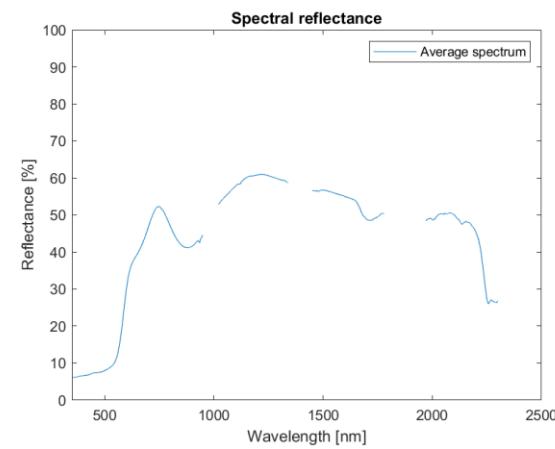
Index	D304
Class	Ceramic
Subclass	Red matte ceramic
Usage	Roof
Color	Red
Surface structure/texture/coating	Smooth, matte
Status	New

Ceramic - D305



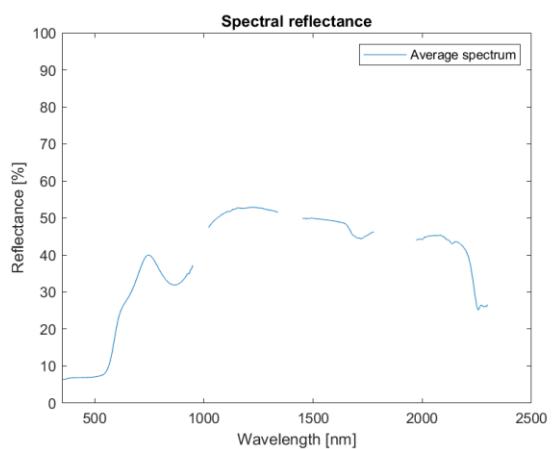
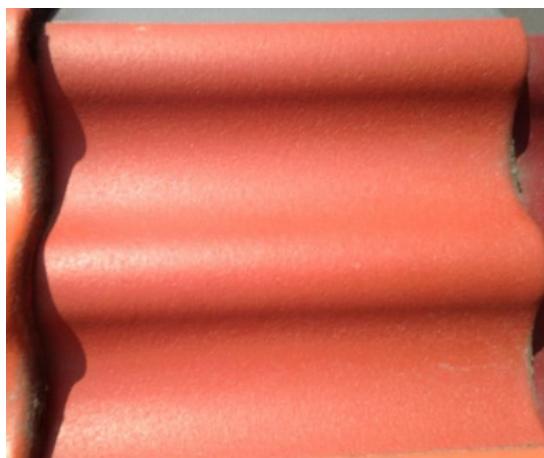
Index	D305
Class	Ceramic
Subclass	Red matte ceramic
Usage	Roof
Color	Red
Surface structure/texture/coating	Smooth, matte
Status	New

Ceramic - D306



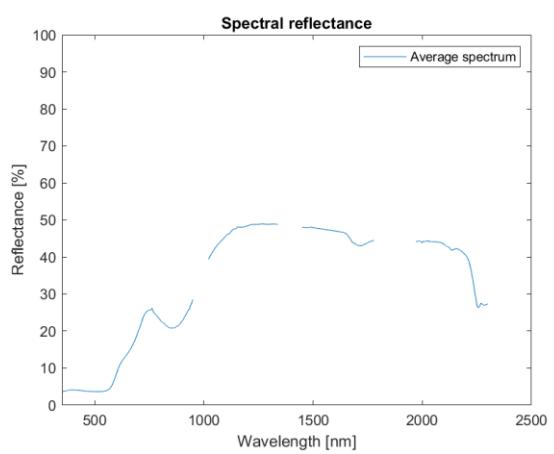
Index	D306
Class	Ceramic
Subclass	Red matte ceramic
Usage	Roof
Color	Red
Surface structure/texture/coating	Fine roughness, matte
Status	New

Ceramic - D307



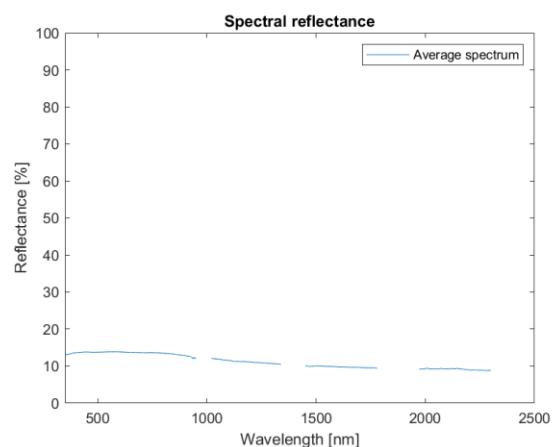
Index	D307
Class	Ceramic
Subclass	Red matte ceramic
Usage	Roof
Color	Red
Surface structure/texture/coating	Fine roughness, matte
Status	New

Ceramic - D308



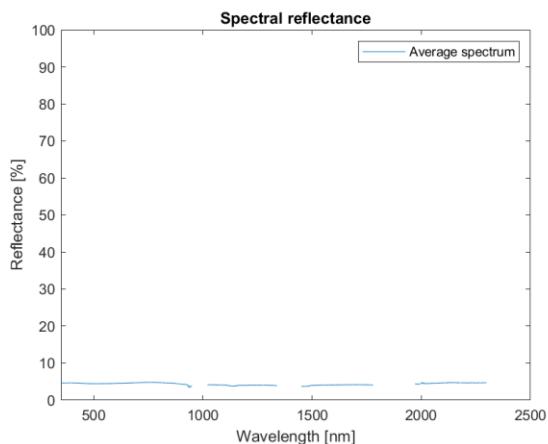
Index	D308
Class	Ceramic
Subclass	Red matte ceramic
Usage	Roof
Color	Red
Surface structure/texture/coating	Fine roughness, matte
Status	New

Ceramic - D401



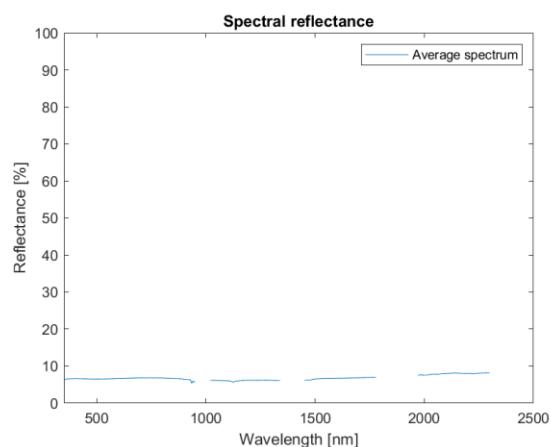
Index	D401
Class	Ceramic
Subclass	Dark matte ceramic
Usage	Ground
Color	Grey
Surface structure/texture/coating	Smooth, matte
Status	New

Ceramic - D402



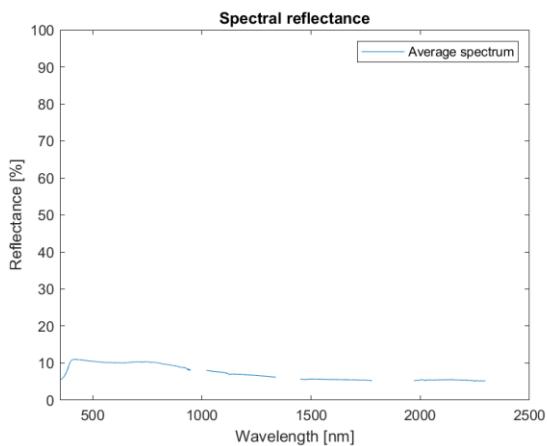
Index	D402
Class	Ceramic
Subclass	Dark matte ceramic
Usage	Roof
Color	Black
Surface structure/texture/coating	Smooth, matte
Status	New

Ceramic - D403



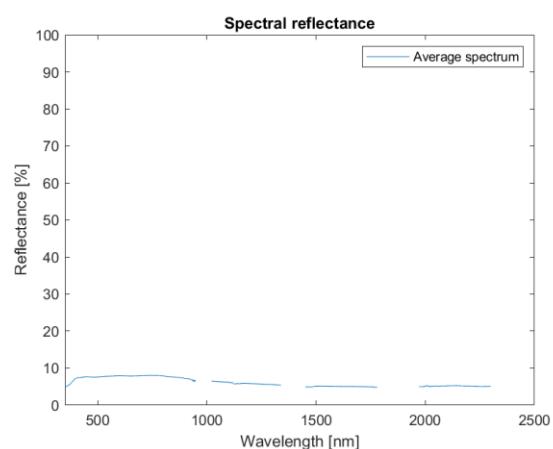
Index	D403
Class	Ceramic
Subclass	Dark matte ceramic
Usage	Roof
Color	Black
Surface structure/texture/coating	Fine roughness, matte
Status	New

Ceramic - D404



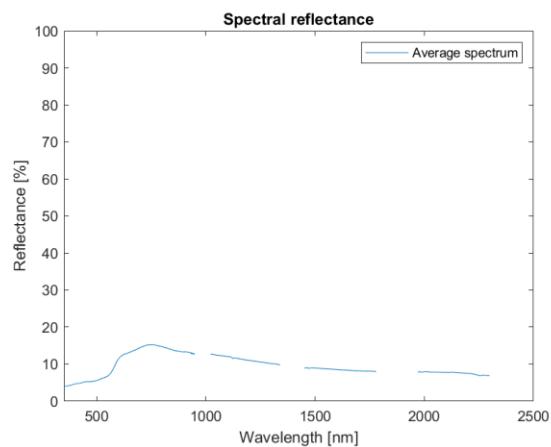
Index	D404
Class	Ceramic
Subclass	Dark matte ceramic
Usage	Roof
Color	Grey
Surface structure/texture/coating	Fine roughness, matte
Status	New

Ceramic - D405



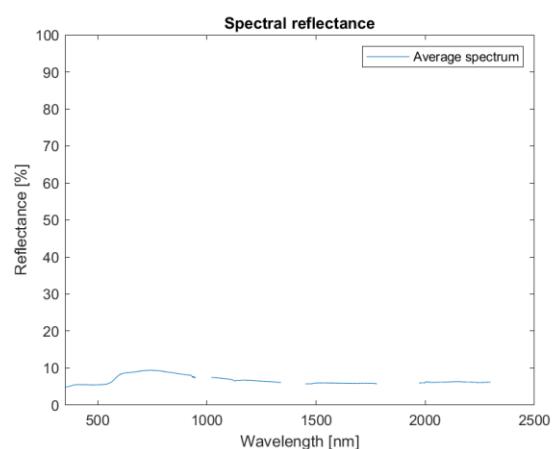
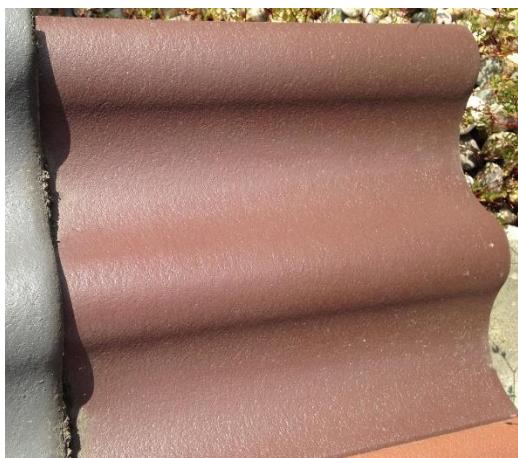
Index	D405
Class	Ceramic
Subclass	Dark matte ceramic
Usage	Roof
Color	Grey
Surface structure/texture/coating	Fine roughness, matte
Status	New

Ceramic - D406



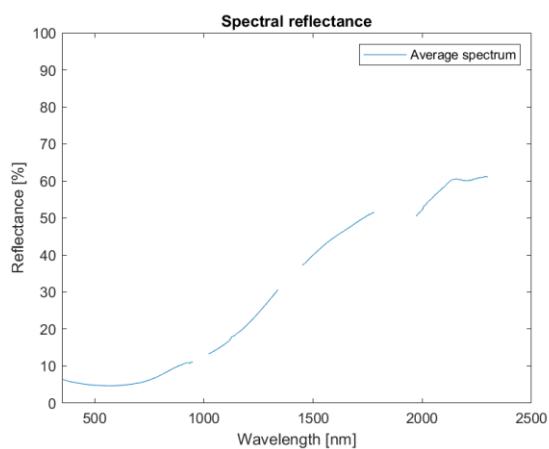
Index	D406
Class	Ceramic
Subclass	Dark matte ceramic
Usage	Roof
Color	Brown
Surface structure/texture/coating	Fine roughness, matte
Status	New

Ceramic - D407



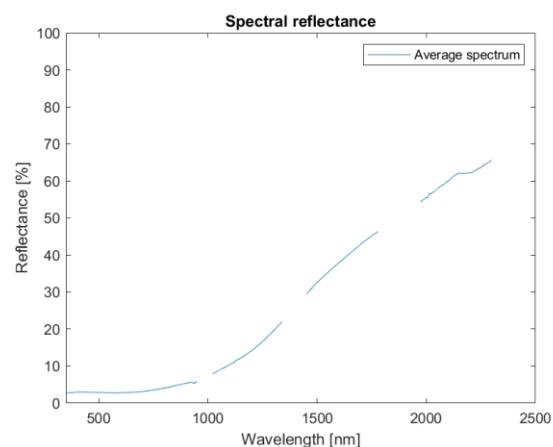
Index	D407
Class	Ceramic
Subclass	Dark matte ceramic
Usage	Roof
Color	Brown
Surface structure/texture/coating	Fine roughness, matte
Status	New

Ceramic - D501



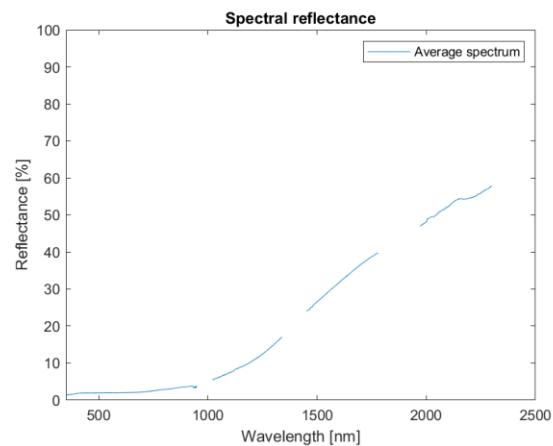
Index	D501
Class	Ceramic
Subclass	Black glazed ceramic
Usage	Roof
Color	Black
Surface structure/texture/coating	Glazed, smooth
Status	New

Ceramic - D502



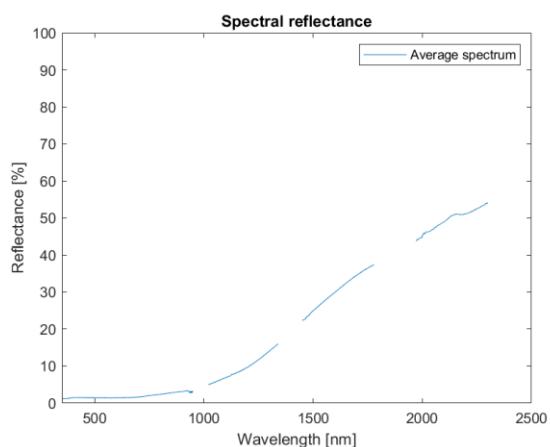
Index	D502
Class	Ceramic
Subclass	Black glazed ceramic
Usage	Roof
Color	Black
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D503



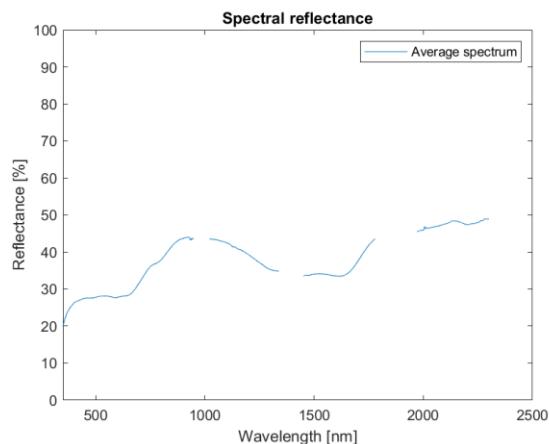
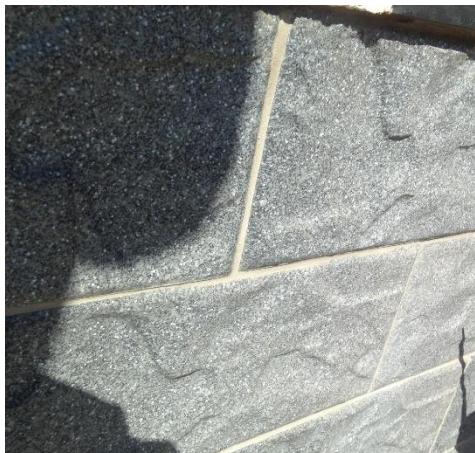
Index	D503
Class	Ceramic
Subclass	Black glazed ceramic
Usage	Roof
Color	Black
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D504



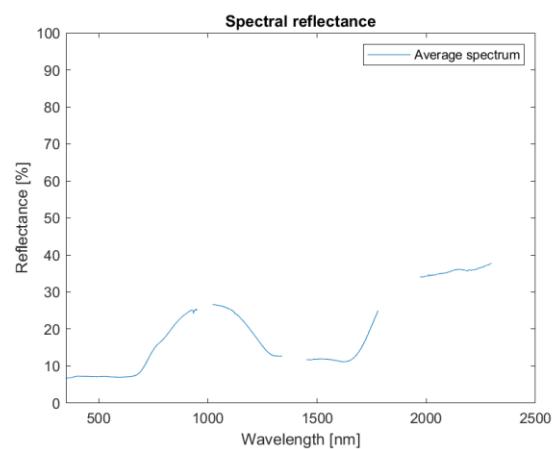
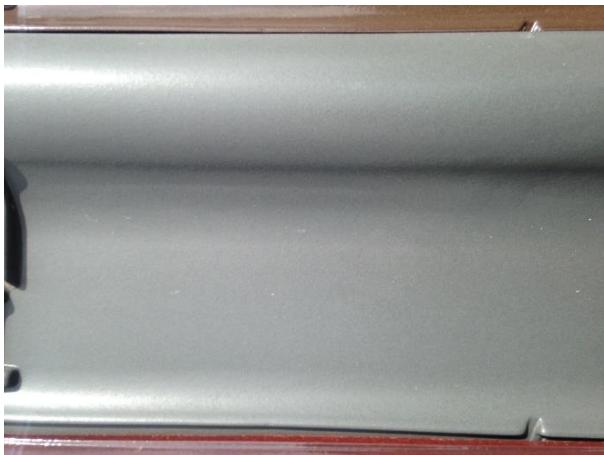
Index	D504
Class	Ceramic
Subclass	Black glazed ceramic
Usage	Roof
Color	Black
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Ceramic - D601



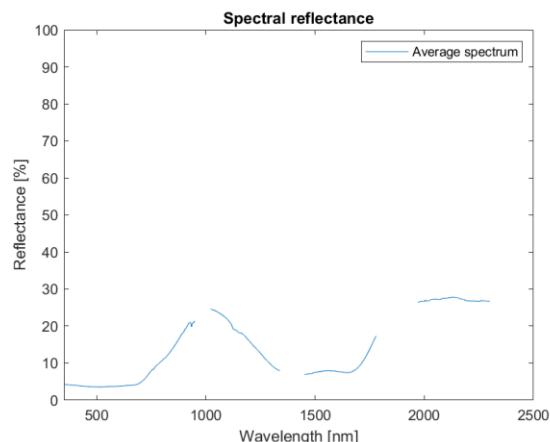
Index	D601
Class	Ceramic
Subclass	Grey ceramic
Usage	Facade
Color	Grey
Surface structure/texture/coating	Uneven
Status	New

Ceramic - D602



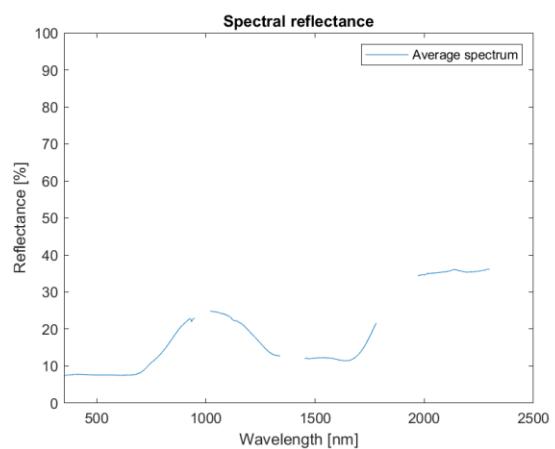
Index	D602
Class	Ceramic
Subclass	Grey ceramic
Usage	Roof
Color	Grey
Surface structure/texture/coating	Smooth, reflective
Status	New

Ceramic - D603



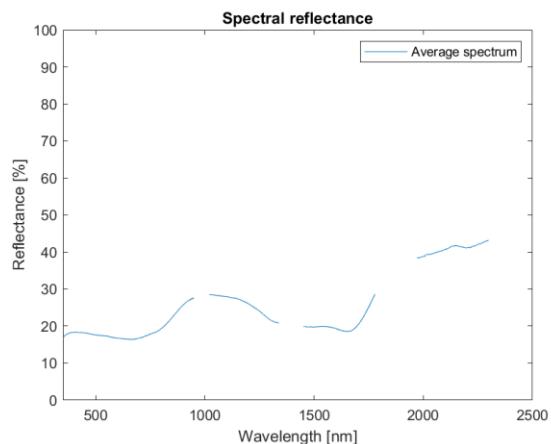
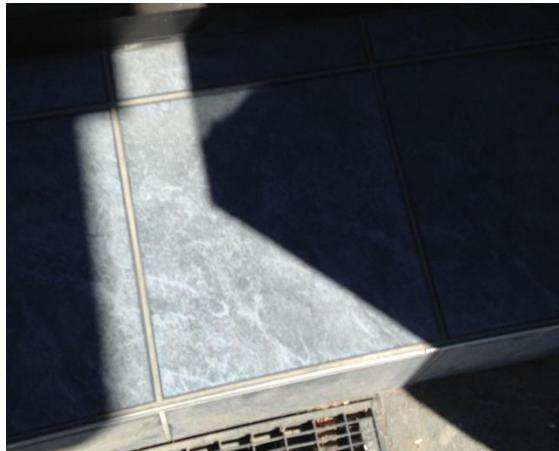
Index	D603
Class	Ceramic
Subclass	Grey ceramic
Usage	Roof
Color	Grey
Surface structure/texture/coating	Smooth, reflective
Status	New

Ceramic - D604



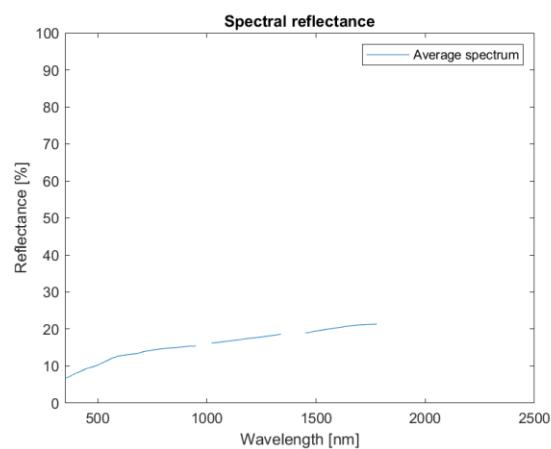
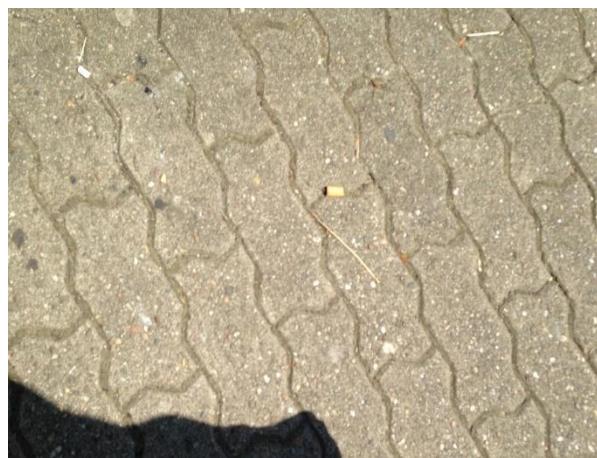
Index	D604
Class	Ceramic
Subclass	Grey ceramic
Usage	Roof
Color	Grey
Surface structure/texture/coating	Smooth, reflective
Status	New

Ceramic - D605



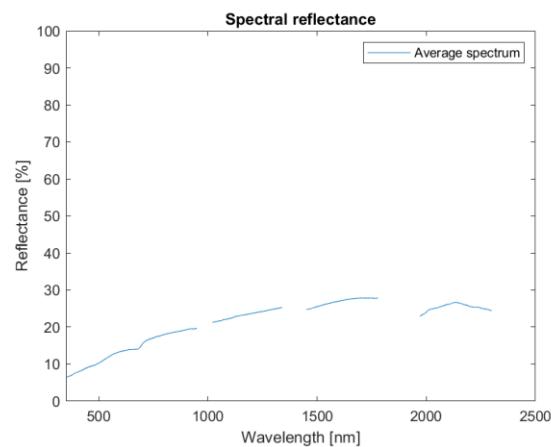
Index	D605
Class	Ceramic
Subclass	Grey ceramic
Usage	Ground
Color	Grey
Surface structure/texture/coating	Smooth, reflective
Status	Weathered

Concrete - E001



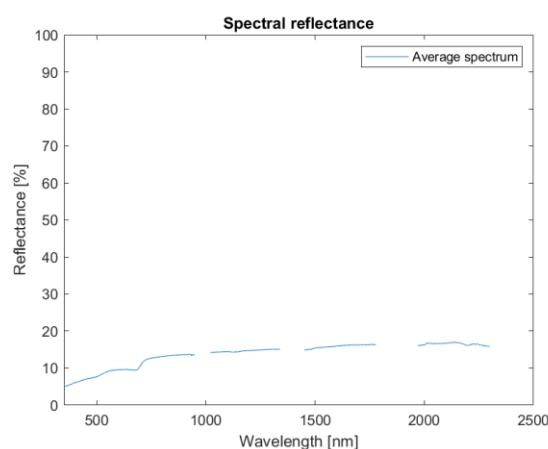
Index	E001
Class	Concrete
Subclass	Bright concrete (ground bricks)
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Concrete - E002



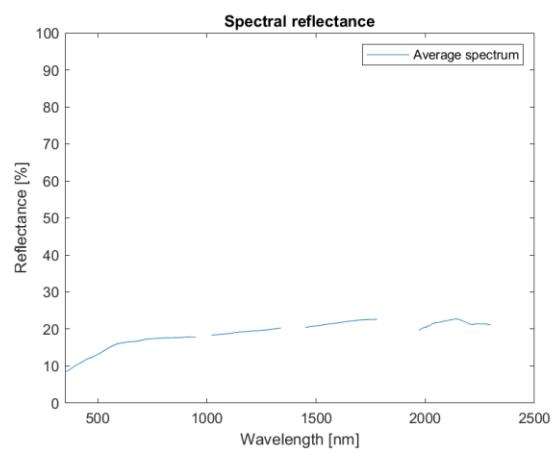
Index	E002
Class	Concrete
Subclass	Bright concrete (ground bricks)
Usage	Ground
Color	Brown
Surface structure/texture/coating	Fine roughness
Status	Weathered

Concrete - E003



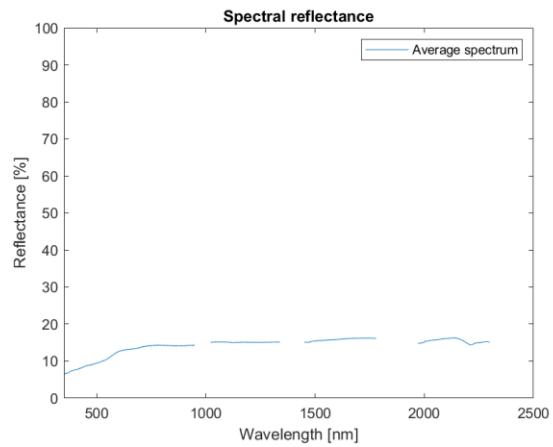
Index	E003
Class	Concrete
Subclass	Bright concrete (ground bricks)
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Concrete - E004



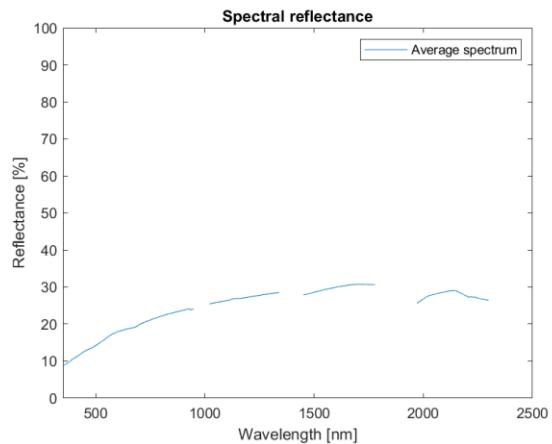
Index	E004
Class	Concrete
Subclass	Bright concrete (ground bricks)
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Concrete - E005



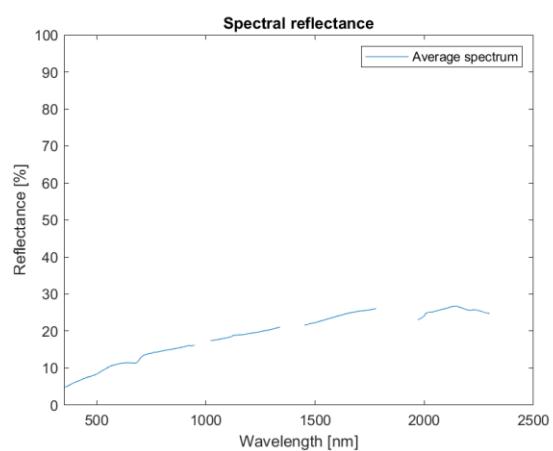
Index	E005
Class	Concrete
Subclass	Bright concrete (ground bricks)
Usage	Ground
Color	Brown
Surface structure/texture/coating	Fine roughness
Status	Weathered

Concrete - E006



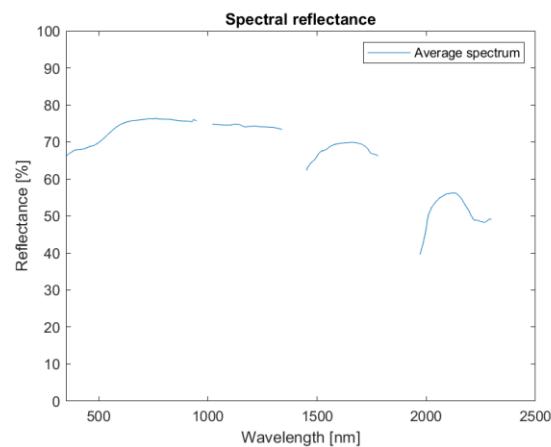
Index	E006
Class	Concrete
Subclass	Bright concrete (ground bricks)
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness, cracked
Status	Weathered

Concrete - E007



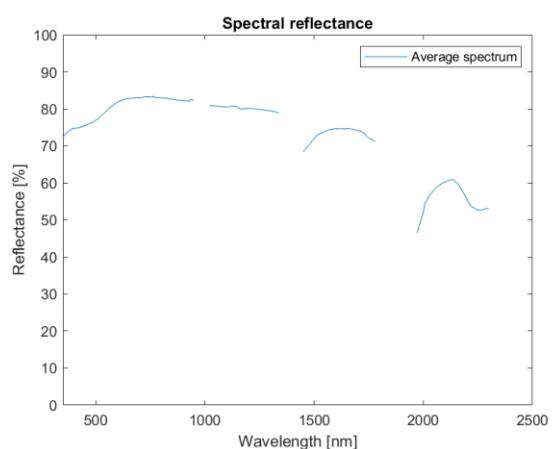
Index	E007
Class	Concrete
Subclass	Bright concrete (ground bricks)
Usage	Ground
Color	Brown
Surface structure/texture/coating	Mossy, smooth
Status	Weathered

Concrete - E101



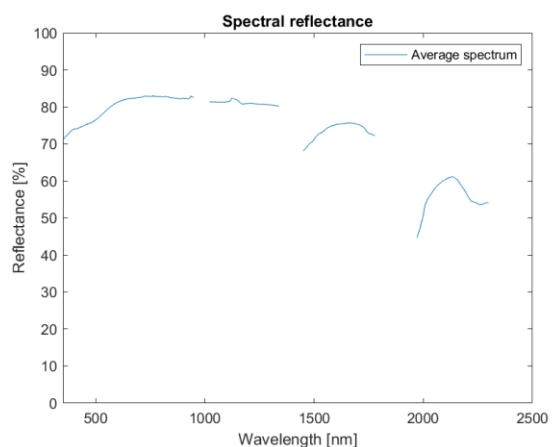
Index	E101
Class	Concrete
Subclass	Grey concrete (blocks)
Usage	Ground
Color	Grey
Surface structure/texture/coating	Bare, porous
Status	New

Concrete - E102



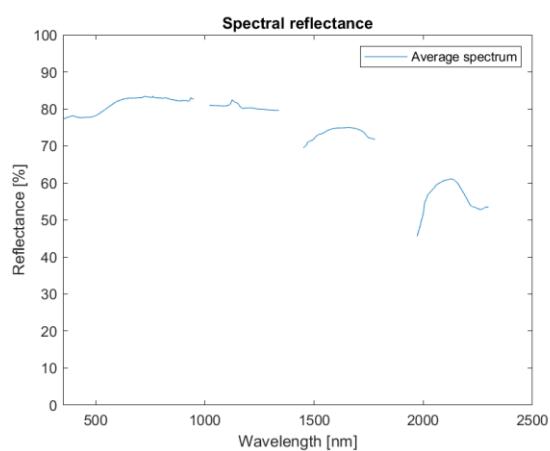
Index	E102
Class	Concrete
Subclass	Grey concrete (blocks)
Usage	Ground
Color	Grey
Surface structure/texture/coating	Bare, porous
Status	New

Concrete - E103



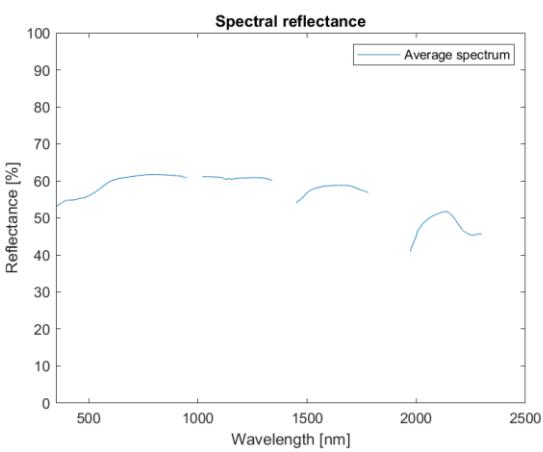
Index	E103
Class	Concrete
Subclass	Grey concrete (blocks)
Usage	Ground
Color	Grey
Surface structure/texture/coating	Bare, porous
Status	New

Concrete - E104



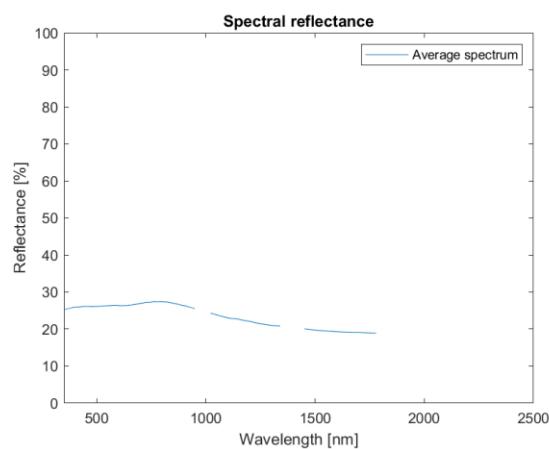
Index	E104
Class	Concrete
Subclass	Grey concrete (blocks)
Usage	Ground
Color	Grey
Surface structure/texture/coating	Bare, porous
Status	New

Concrete - E105



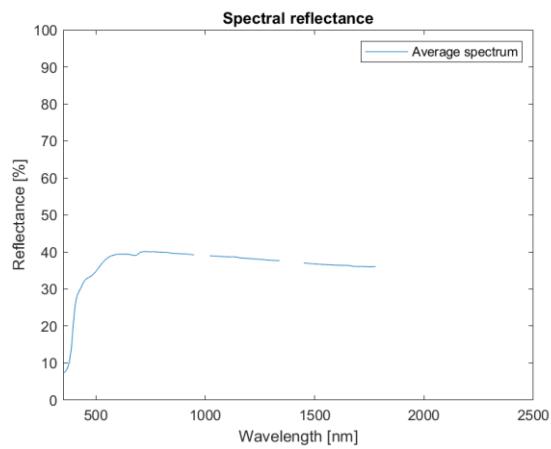
Index	E105
Class	Concrete
Subclass	Grey concrete (blocks)
Usage	Ground
Color	Grey
Surface structure/texture/coating	Smooth, uneven
Status	New

Concrete - E201



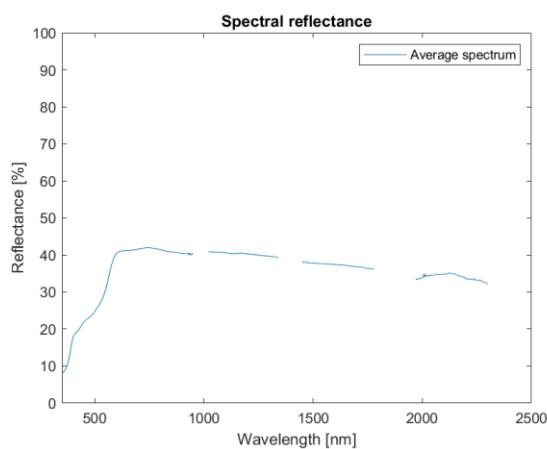
Index	E201
Class	Concrete
Subclass	Weathered porous concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Porous, uneven
Status	Weathered

Concrete - E202



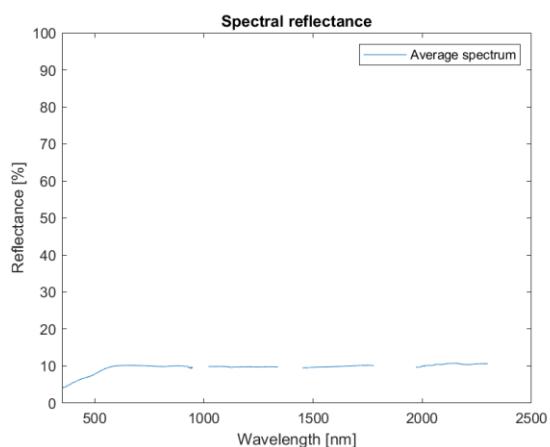
Index	E202
Class	Concrete
Subclass	Weathered porous concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Porous, uneven
Status	Weathered

Concrete - E203



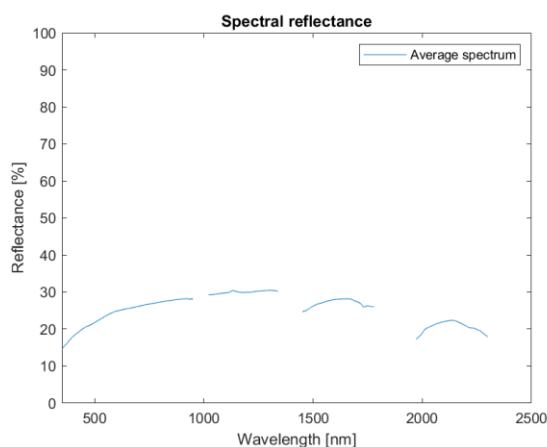
Index	E203
Class	Concrete
Subclass	Weathered porous concrete
Usage	Facade
Color	Beige
Surface structure/texture/coating	Fine roughness, porous
Status	Weathered

Concrete - E204



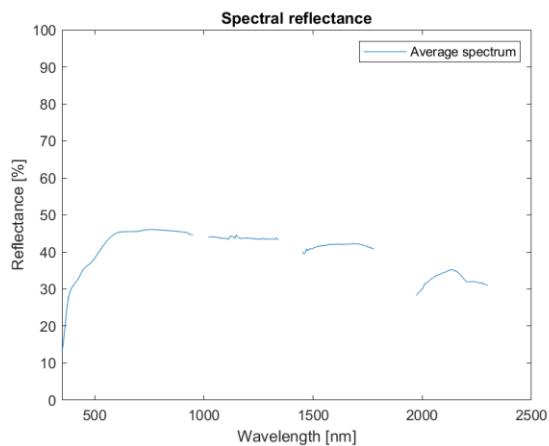
Index	E204
Class	Concrete
Subclass	Weathered porous concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Burnt, porous, uneven
Status	Weathered

Concrete - E301



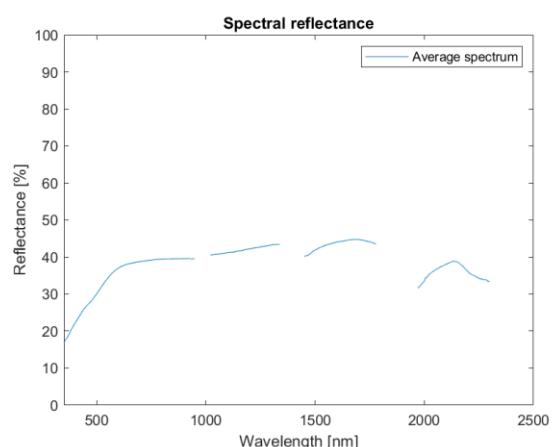
Index	E301
Class	Concrete
Subclass	Bright concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Bare, porous
Status	Weathered

Concrete - E302



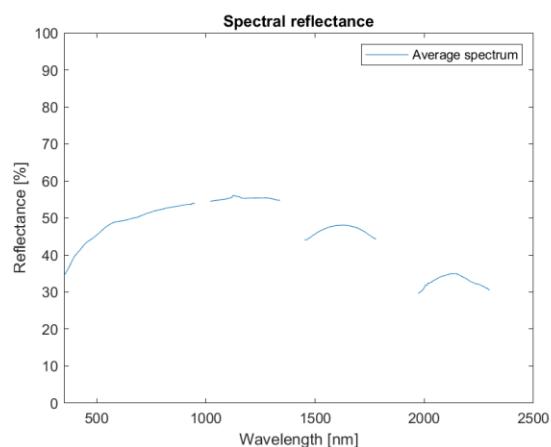
Index	E302
Class	Concrete
Subclass	Bright concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Bare, porous
Status	Weathered

Concrete - E303



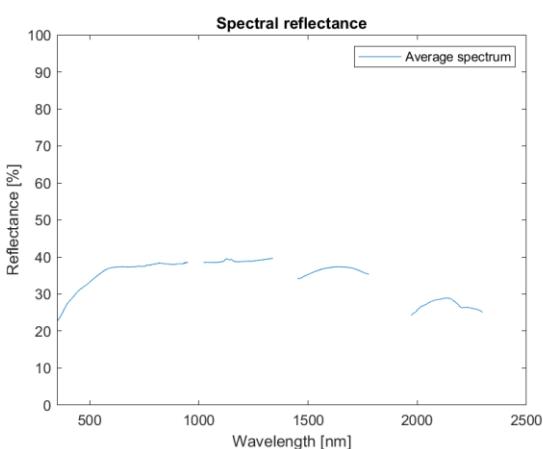
Index	E303
Class	Concrete
Subclass	Bright concrete
Usage	Facade
Color	Beige
Surface structure/texture/coating	Bare, porous
Status	Weathered

Concrete - E304



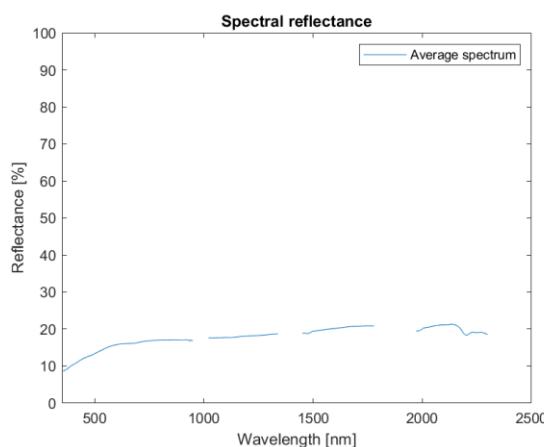
Index	E304
Class	Concrete
Subclass	Bright concrete
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness, uneven
Status	New

Concrete - E305



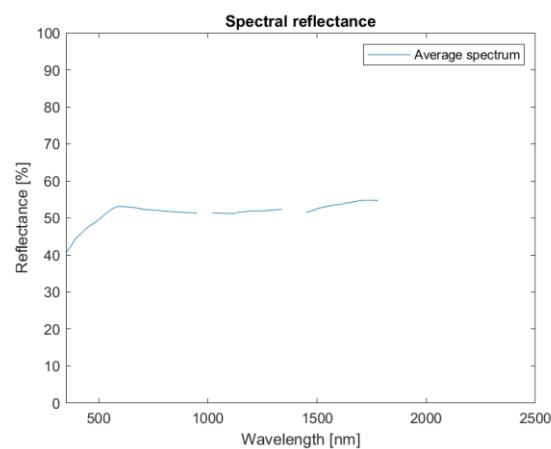
Index	E305
Class	Concrete
Subclass	Bright concrete
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness, uneven
Status	New

Concrete - E401



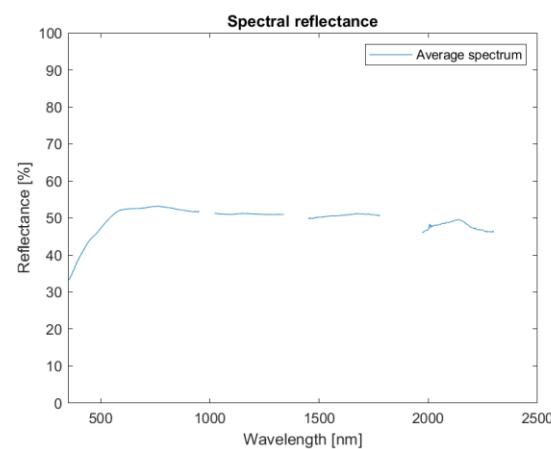
Index	E401
Class	Concrete
Subclass	Grey concrete
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Concrete - E402



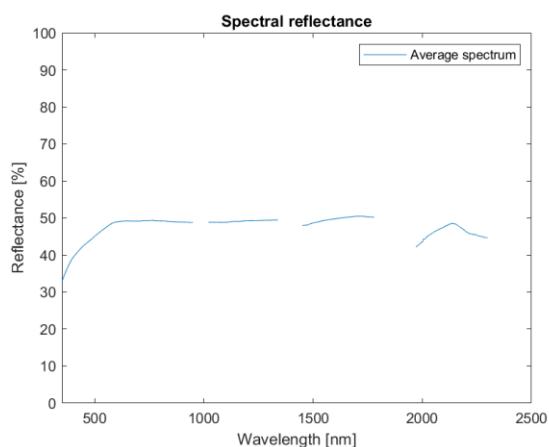
Index	E402
Class	Concrete
Subclass	Grey concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Fine roughness, porous
Status	Weathered

Concrete - E403



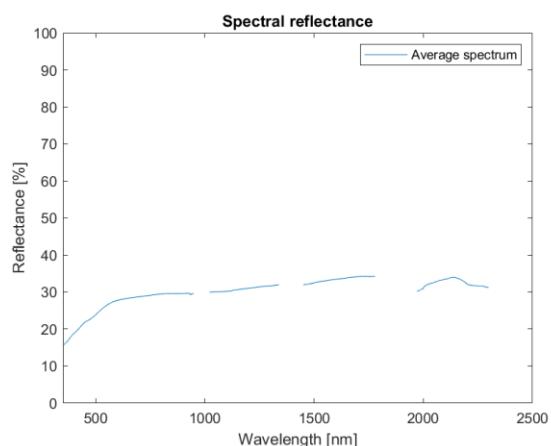
Index	E403
Class	Concrete
Subclass	Grey concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Bare, smooth
Status	Weathered

Concrete - E404



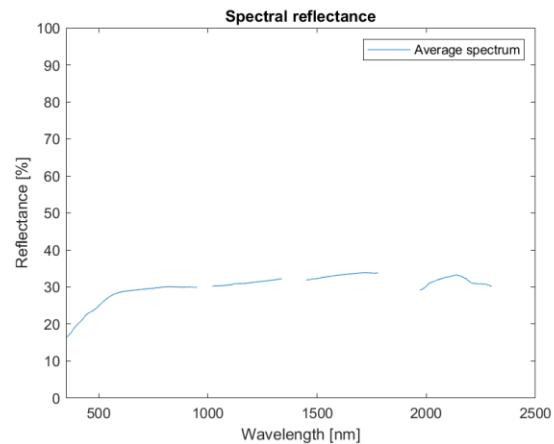
Index	E404
Class	Concrete
Subclass	Grey concrete
Usage	Ground
Color	Grey
Surface structure/texture/coating	Bare, fine roughness
Status	Weathered

Concrete - E405



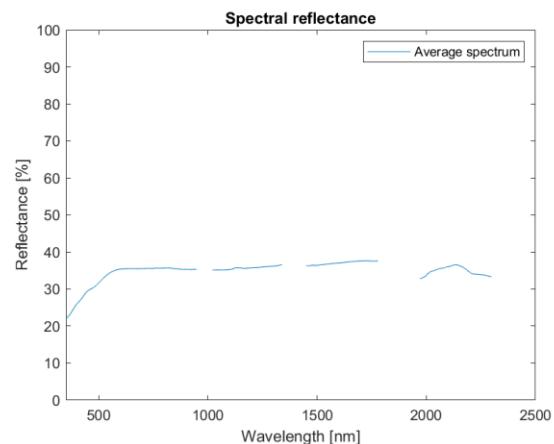
Index	E405
Class	Concrete
Subclass	Grey concrete
Usage	Ground
Color	Grey
Surface structure/texture/coating	Bare, porous
Status	New

Concrete - E406



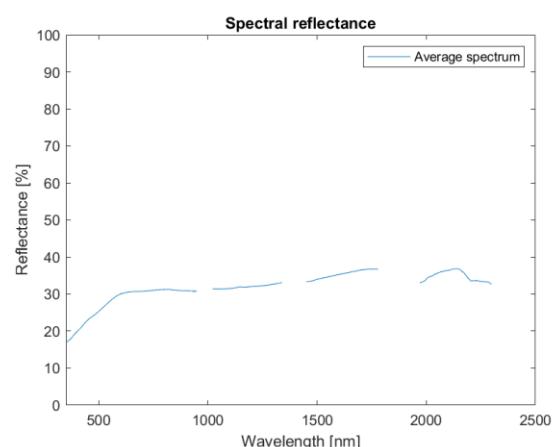
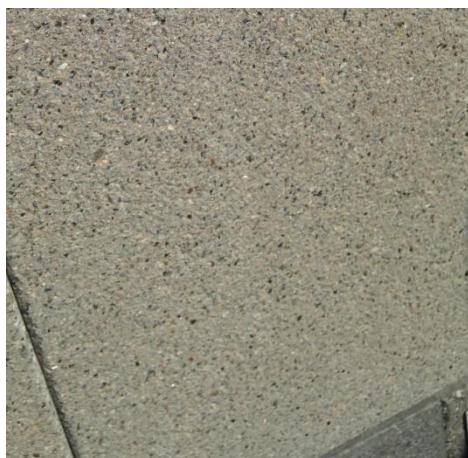
Index	E406
Class	Concrete
Subclass	Grey concrete
Usage	Ground
Color	Grey
Surface structure/texture/coating	Bare, porous
Status	New

Concrete - E407



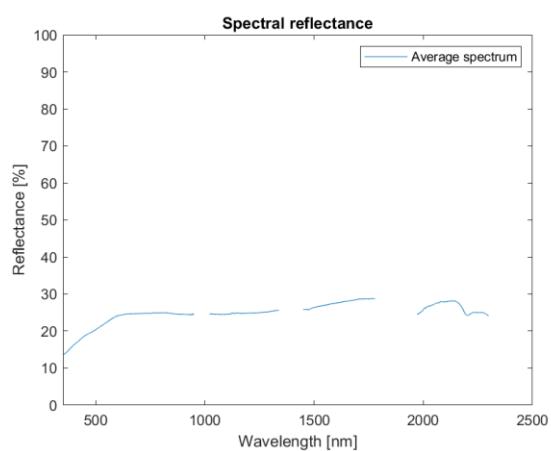
Index	E407
Class	Concrete
Subclass	Grey concrete
Usage	Ground
Color	Grey
Surface structure/texture/coating	Bare, porous
Status	New

Concrete - E408



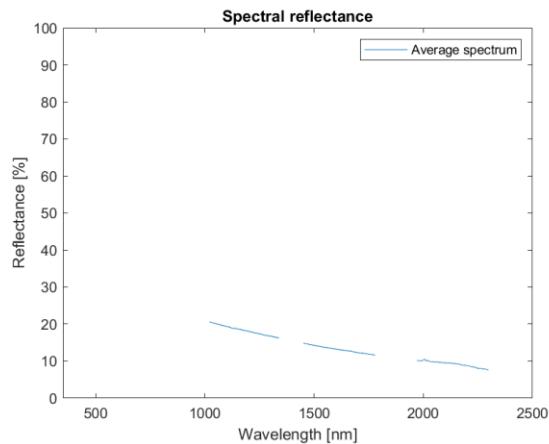
Index	E408
Class	Concrete
Subclass	Grey concrete
Usage	Ground
Color	Grey
Surface structure/texture/coating	Smooth
Status	New

Concrete - E409



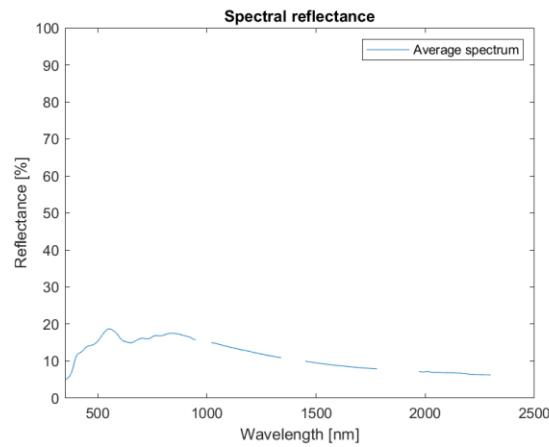
Index	E409
Class	Concrete
Subclass	Grey concrete
Usage	Ground
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	New

Concrete - E501



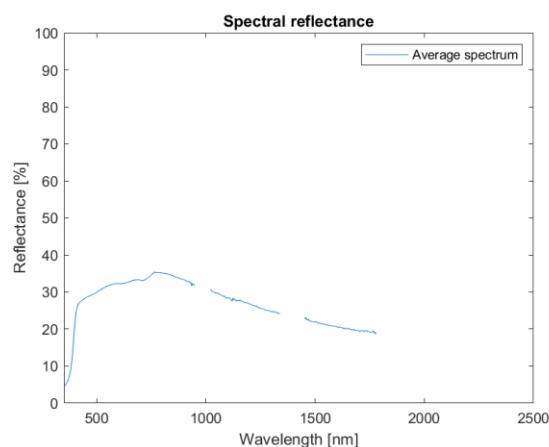
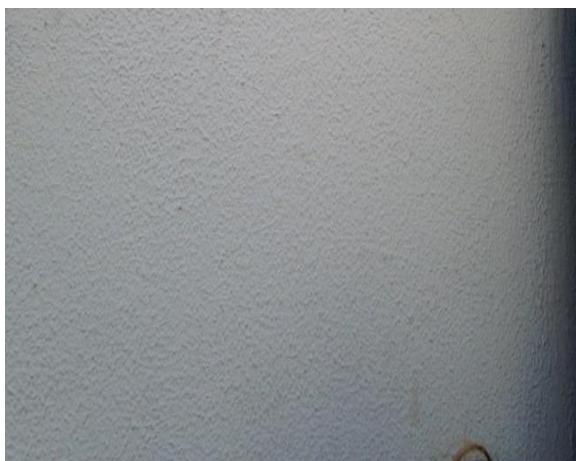
Index	E501
Class	Concrete
Subclass	Painted concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Painted, fine roughness
Status	Weathered

Concrete - E502



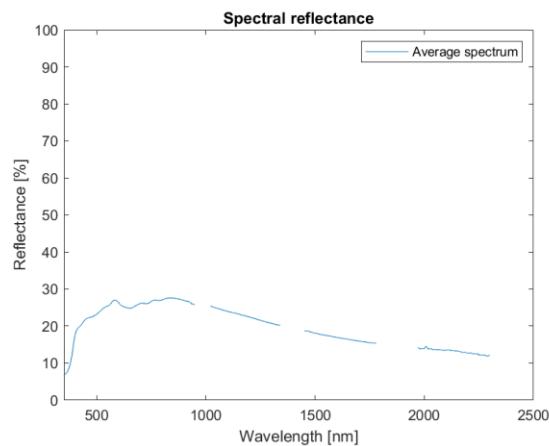
Index	E502
Class	Concrete
Subclass	Painted concrete
Usage	Facade
Color	White
Surface structure/texture/coating	Painted, fine roughness
Status	Weathered

Concrete - E503



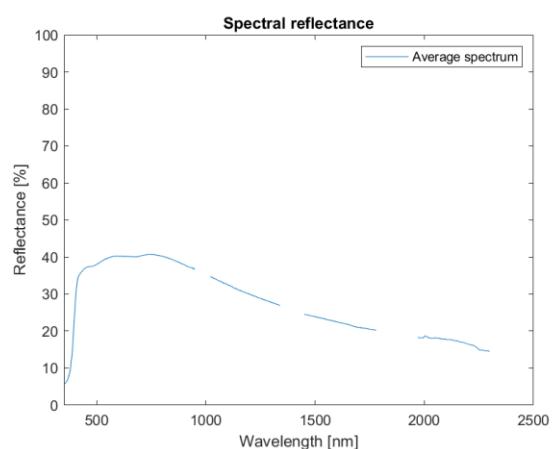
Index	E503
Class	Concrete
Subclass	Painted concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Painted, smooth
Status	Weathered

Concrete - E504



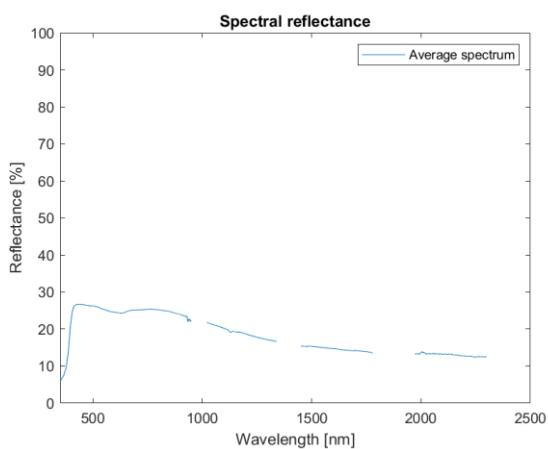
Index	E504
Class	Concrete
Subclass	Painted concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Painted, popcorn
Status	Weathered

Concrete - E505



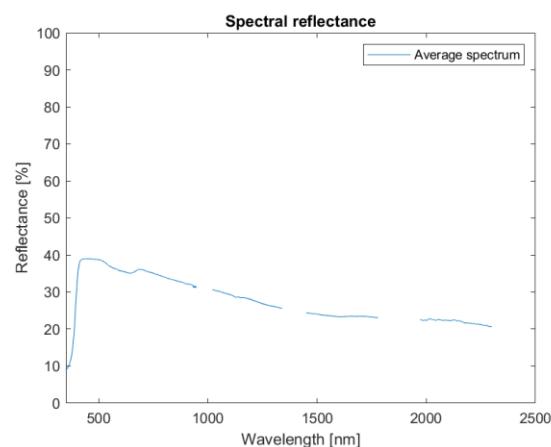
Index	E505
Class	Concrete
Subclass	Painted concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Painted, smooth
Status	New

Concrete - E506



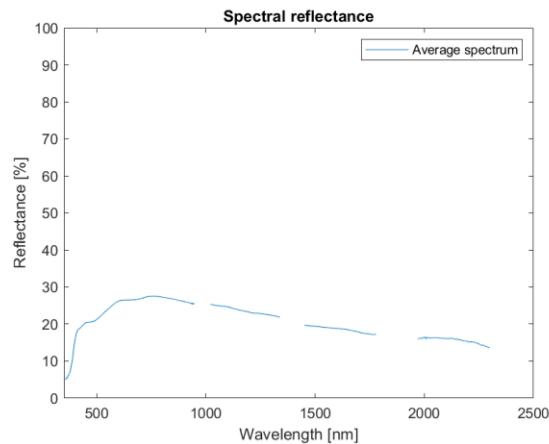
Index	E506
Class	Concrete
Subclass	Painted concrete
Usage	Facade
Color	Blue
Surface structure/texture/coating	Painted, popcorn
Status	New

Concrete - E507



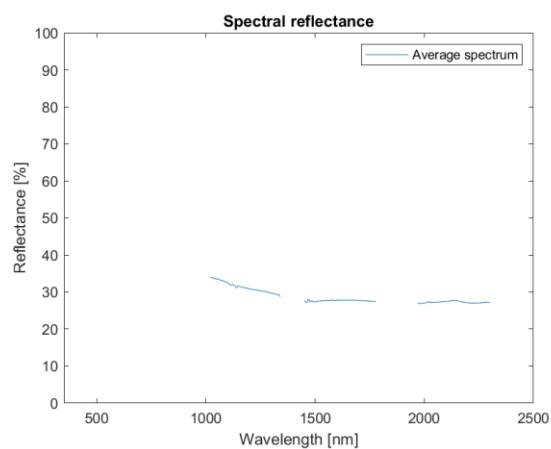
Index	E507
Class	Concrete
Subclass	Painted concrete
Usage	Facade
Color	Grey
Surface structure/texture/coating	Painted, popcorn
Status	Weathered

Concrete - E508



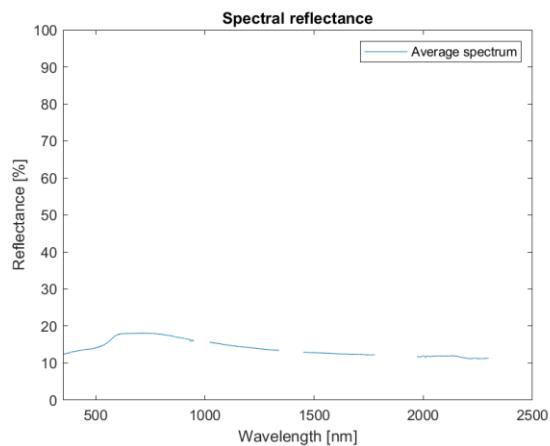
Index	E508
Class	Concrete
Subclass	Painted concrete
Usage	Facade
Color	White
Surface structure/texture/coating	Painted, smooth
Status	Weathered

Granite - F001



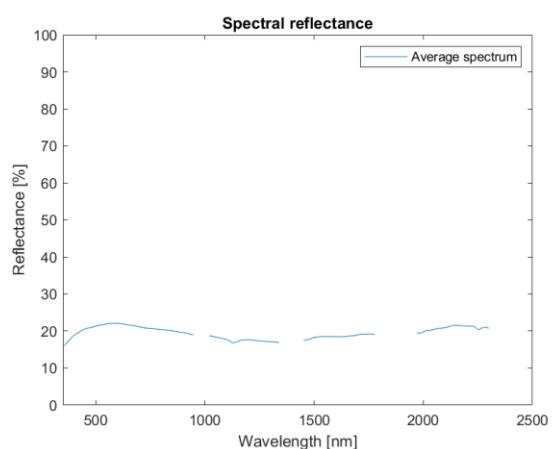
Index	F001
Class	Granite
Subclass	Biotite granite
Usage	Facade
Color	Blue
Surface structure/texture/coating	Glazed, smooth, reflective
Status	New

Granite - F002



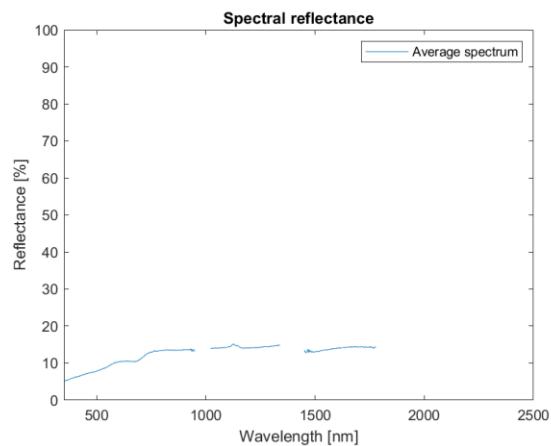
Index	F002
Class	Granite
Subclass	Biotite granite
Usage	Ground
Color	Brown
Surface structure/texture/coating	Glazed, smooth
Status	New

Granite - F003



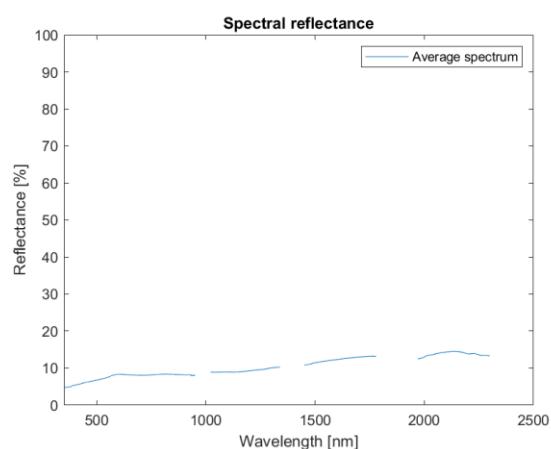
Index	F003
Class	Granite
Subclass	Biotite granite
Usage	Facade
Color	Grey
Surface structure/texture/coating	Smooth
Status	Weathered

Granite - F004



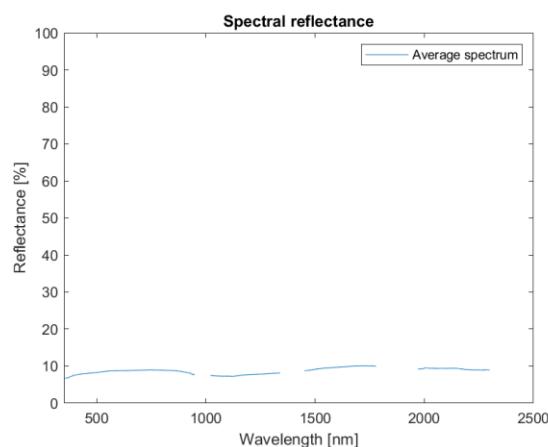
Index	F004
Class	Granite
Subclass	Biotite granite
Usage	Facade
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Granite - F005



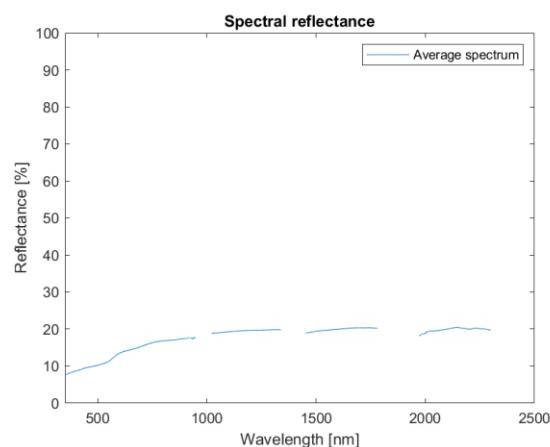
Index	F005
Class	Granite
Subclass	Biotite granite
Usage	Facade
Color	Red
Surface structure/texture/coating	Polished, smooth
Status	New

Granite - F006



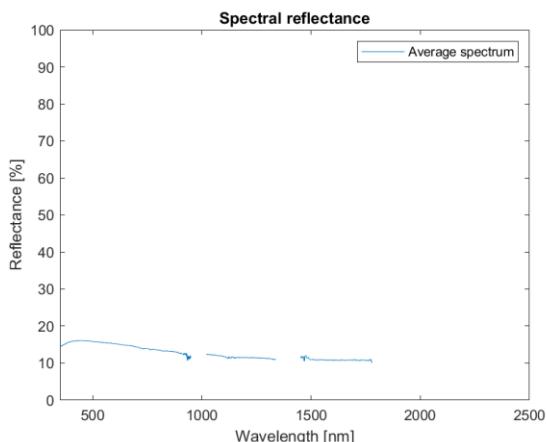
Index	F006
Class	Granite
Subclass	Biotite granite
Usage	Facade
Color	Grey
Surface structure/texture/coating	Polished, smooth
Status	New

Granite - F007



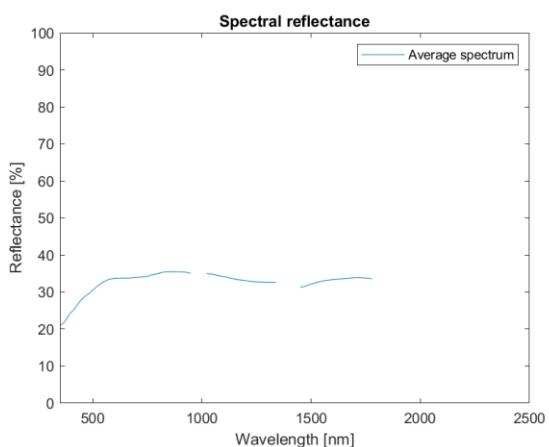
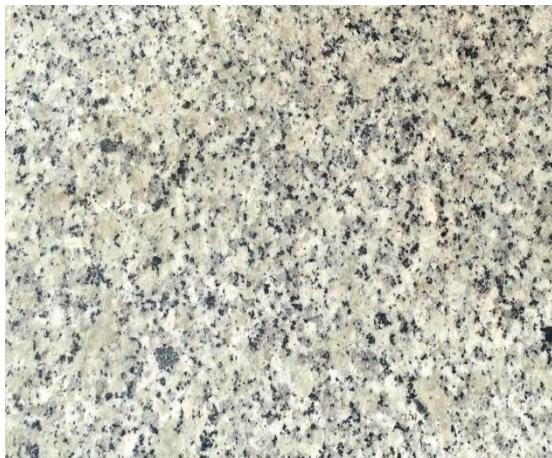
Index	F007
Class	Granite
Subclass	Biotite granite
Usage	Ground
Color	Red
Surface structure/texture/coating	Glazed, smooth, reflective
Status	Weathered

Granite - F008



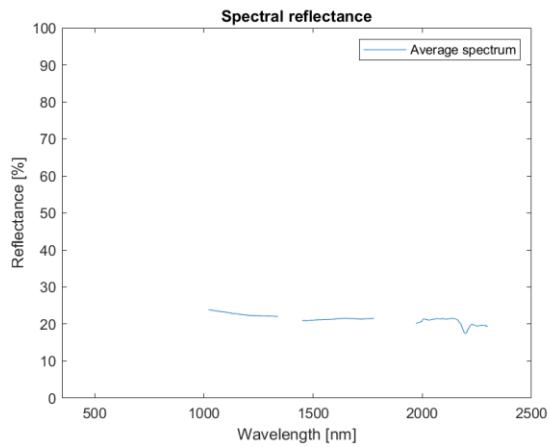
Index	F008
Class	Granite
Subclass	Biotite granite
Usage	Facade
Color	Grey
Surface structure/texture/coating	Uneven
Status	New

Granite - F101



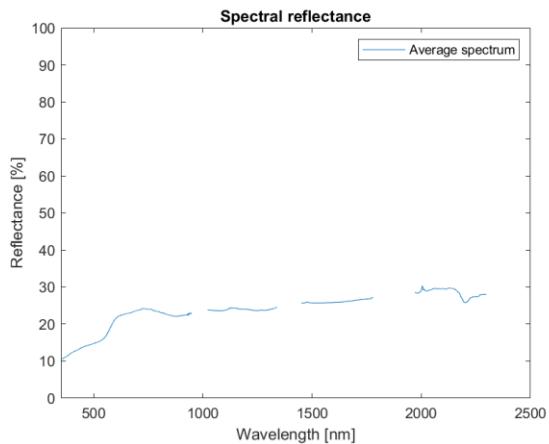
Index	F101
Class	Granite
Subclass	Muscovite granite
Usage	Facade
Color	Grey
Surface structure/texture/coating	Glazed, reflective, smooth
Status	Weathered

Granite - F102



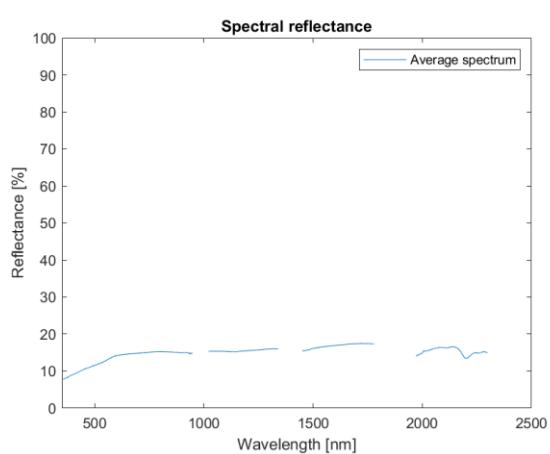
Index	F102
Class	Granite
Subclass	Muscovite granite
Usage	Facade
Color	Red
Surface structure/texture/coating	Glazed, reflective, smooth
Status	New

Granite - F103



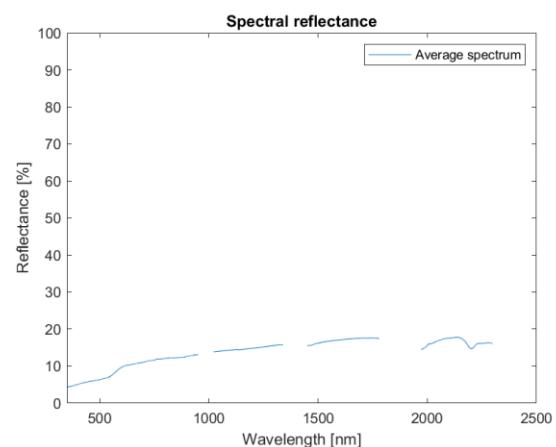
Index	F103
Class	Granite
Subclass	Muscovite granite
Usage	Facade
Color	Red
Surface structure/texture/coating	Glazed, smooth
Status	Weathered

Granite - F104



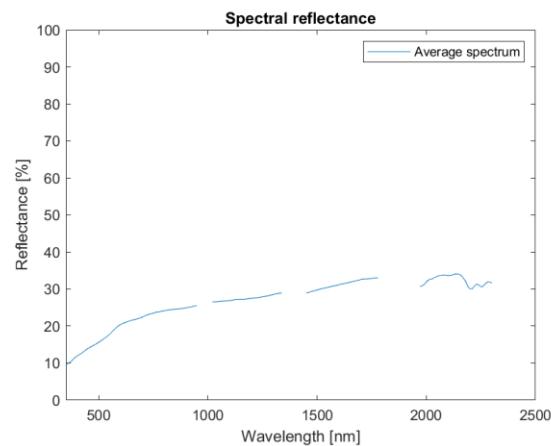
Index	F104
Class	Granite
Subclass	Muscovite granite
Usage	Ground
Color	Red
Surface structure/texture/coating	Smooth
Status	Weathered

Granite - F105



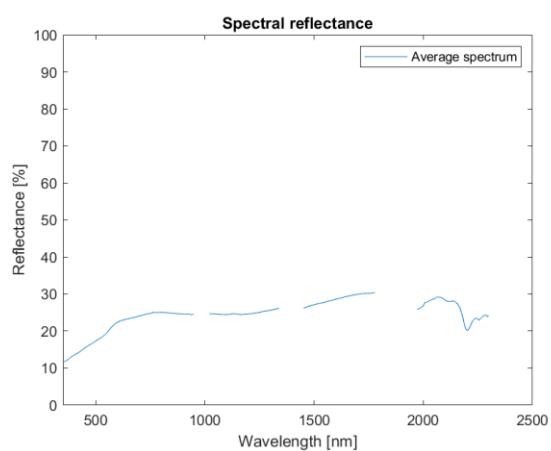
Index	F105
Class	Granite
Subclass	Muscovite granite
Usage	Ground
Color	Red
Surface structure/texture/coating	Glazed, smooth
Status	Weathered

Granite - F106



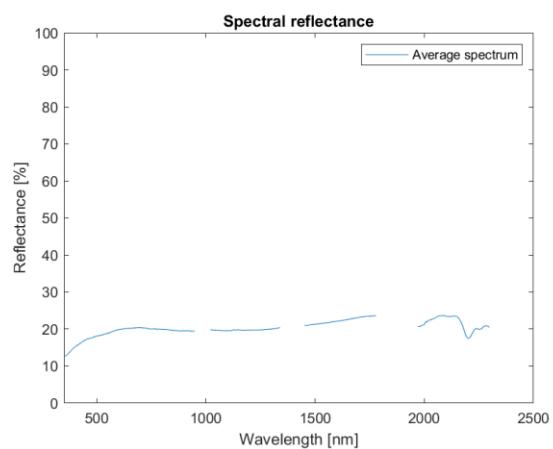
Index	F106
Class	Granite
Subclass	Muscovite granite
Usage	Facade
Color	Grey
Surface structure/texture/coating	Fine roughness, uneven
Status	Weathered

Granite - F107



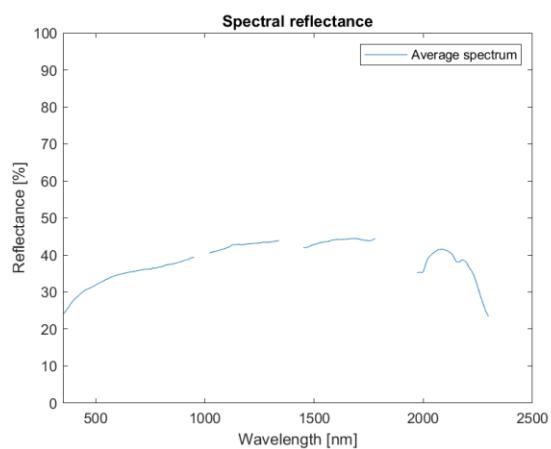
Index	F107
Class	Granite
Subclass	Muscovite granite
Usage	Facade
Color	Red
Surface structure/texture/coating	Glazed, smooth
Status	New

Granite - F108



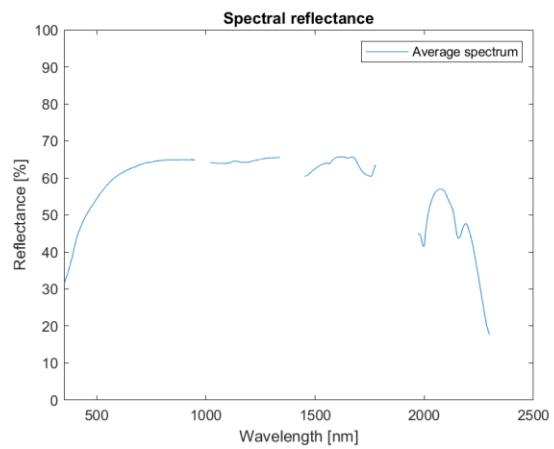
Index	F108
Class	Granite
Subclass	Muscovite granite
Usage	Ground
Color	Grey
Surface structure/texture/coating	Uneven
Status	Weathered

Limestone – G001



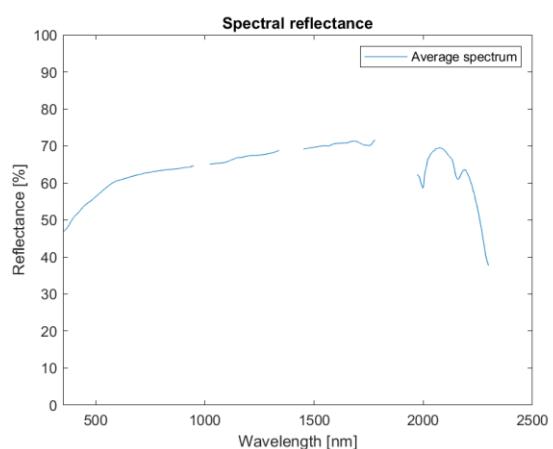
Index	G001
Class	Limestone
Subclass	White limestone
Usage	Facade
Color	White
Surface structure/texture/coating	Uneven
Status	Weathered

Limestone – G002



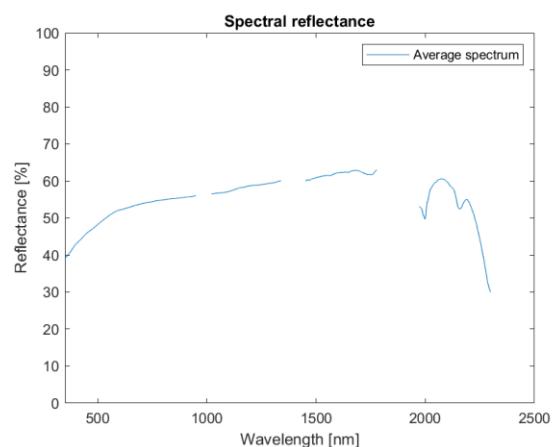
Index	G002
Class	Limestone
Subclass	White limestone
Usage	Ground
Color	White
Surface structure/texture/coating	Smooth
Status	Weathered

Limestone – G003



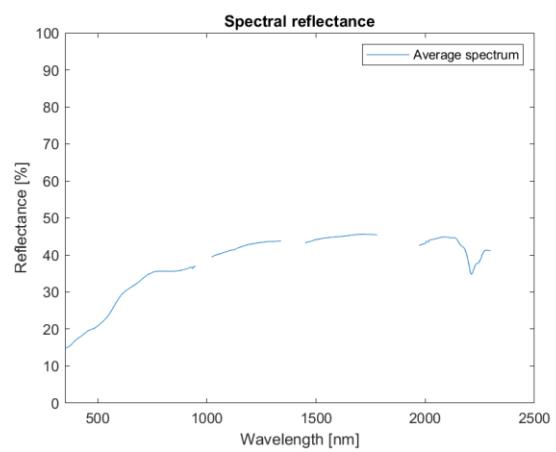
Index	G003
Class	Limestone
Subclass	White limestone
Usage	Ground
Color	White
Surface structure/texture/coating	Smooth
Status	Weathered

Limestone – G004



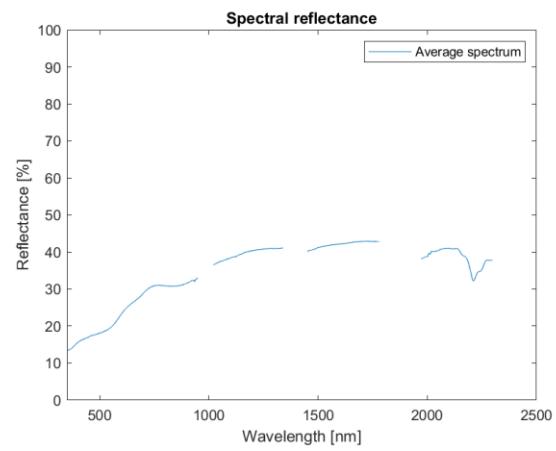
Index	G004
Class	Limestone
Subclass	White limestone
Usage	Ground
Color	White
Surface structure/texture/coating	Smooth
Status	Weathered

Limestone – G101



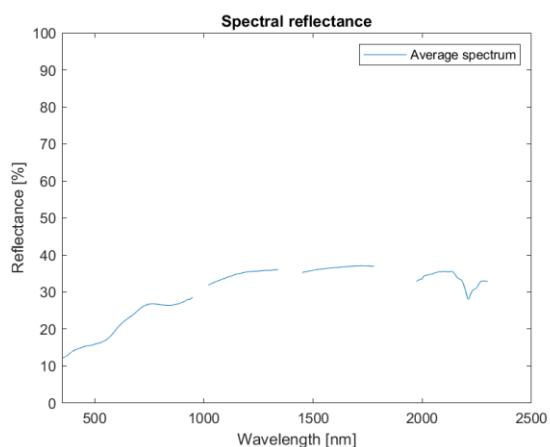
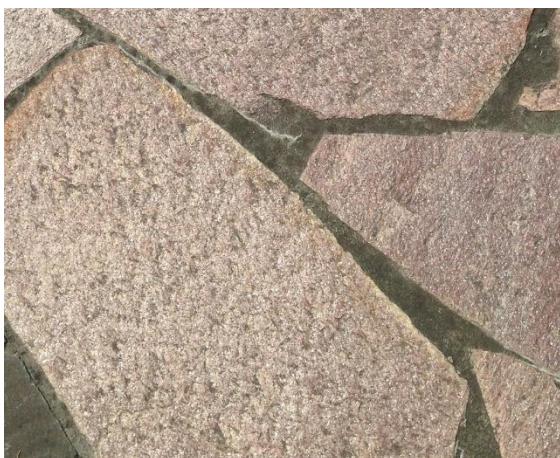
Index	G101
Class	Limestone
Subclass	Colored limestone
Usage	Ground
Color	Red
Surface structure/texture/coating	Fine roughness
Status	Weathered

Limestone – G102



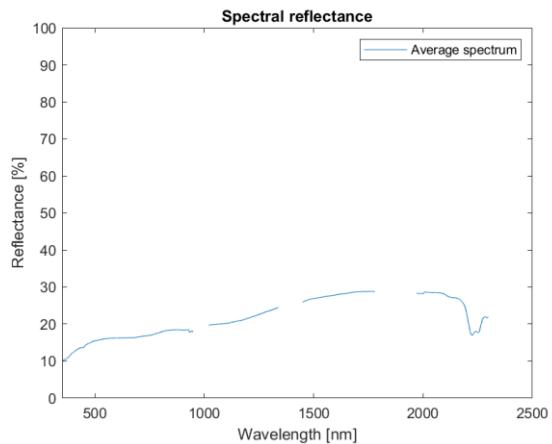
Index	G102
Class	Limestone
Subclass	Colored limestone
Usage	Ground
Color	Red
Surface structure/texture/coating	Fine roughness
Status	Weathered

Limestone – G103



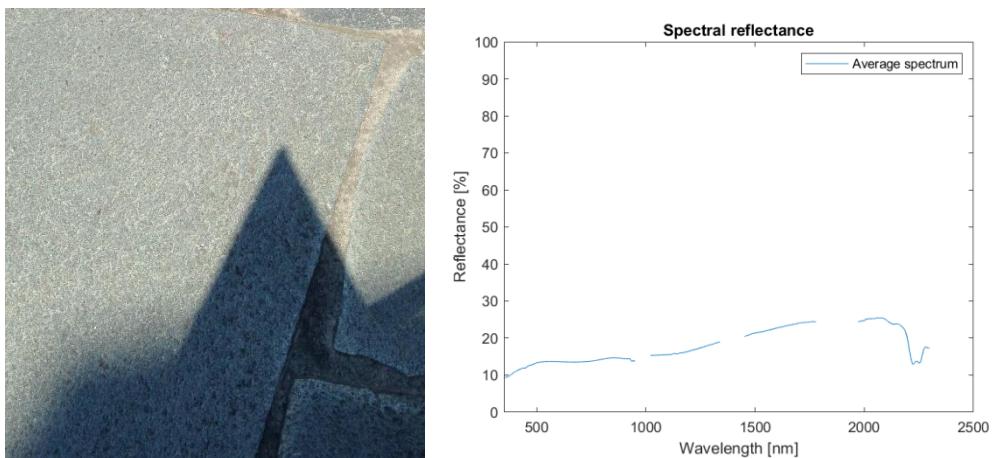
Index	G103
Class	Limestone
Subclass	Colored limestone
Usage	Ground
Color	Red
Surface structure/texture/coating	Fine roughness
Status	Weathered

Limestone – G104



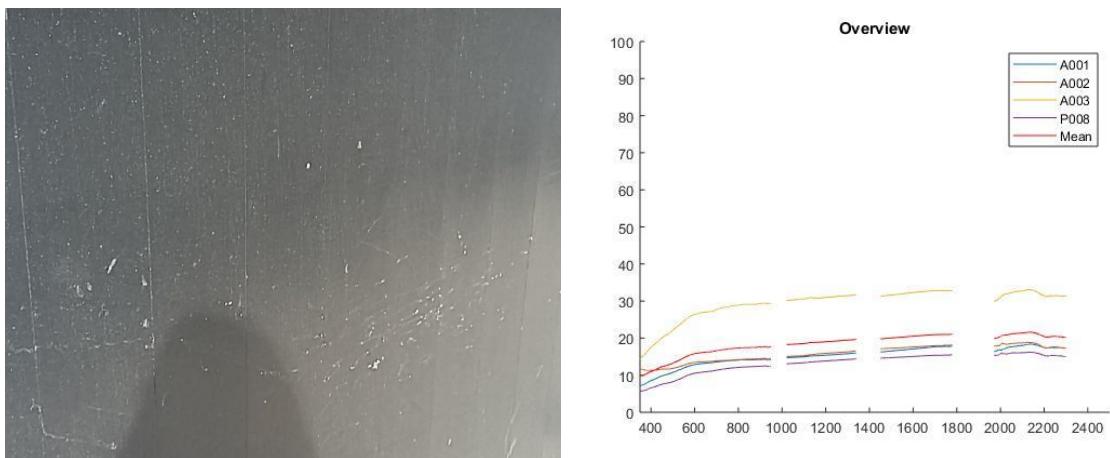
Index	G104
Class	Limestone
Subclass	Colored limestone
Usage	Ground
Color	Grey
Surface structure/texture/coating	Smooth
Status	New

Limestone – G105



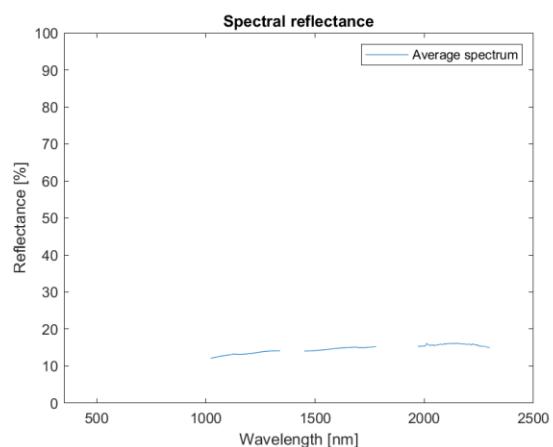
Index	G105
Class	Limestone
Subclass	Colored limestone
Usage	Ground
Color	Grey
Surface structure/texture/coating	Smooth
Status	New

Metal – H001



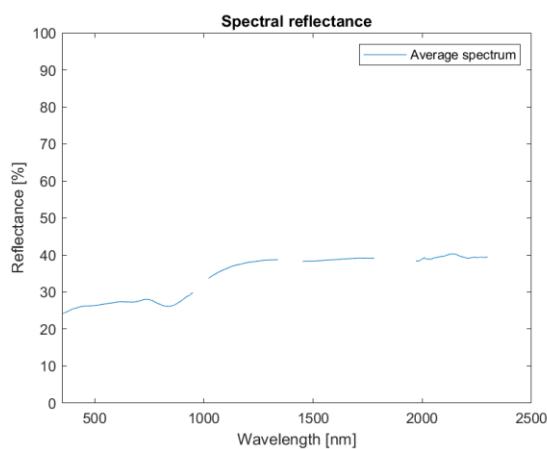
Index	H004
Class	Metal
Subclass	Paint-sprayed metal
Usage	Facade
Color	Black
Surface structure/texture/coating	Paint-sprayed, smooth, reflective
Status	New

Metal – H002



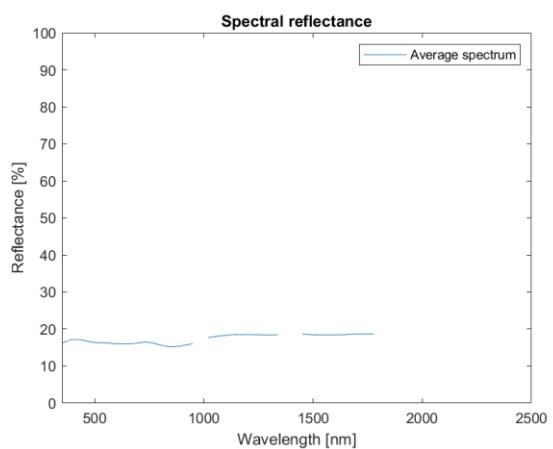
Index	H002
Class	Metal
Subclass	Paint-sprayed metal
Usage	Facade
Color	Grey
Surface structure/texture/coating	Paint-sprayed, reflective, uneven
Status	New

Metal – H003



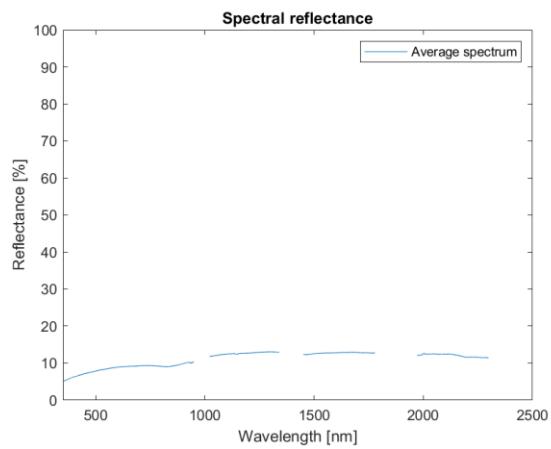
Index	H003
Class	Metal
Subclass	Paint-sprayed metal
Usage	Facade
Color	Grey
Surface structure/texture/coating	Paint-sprayed, reflective, fine roughness
Status	New

Metal – H004



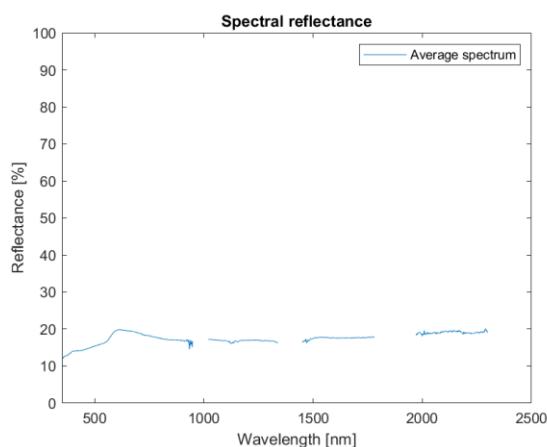
Index	H004
Class	Metal
Subclass	Paint-sprayed metal
Usage	Facade
Color	Grey
Surface structure/texture/coating	Paint-sprayed, smooth, reflective
Status	Weathered

Metal – H005



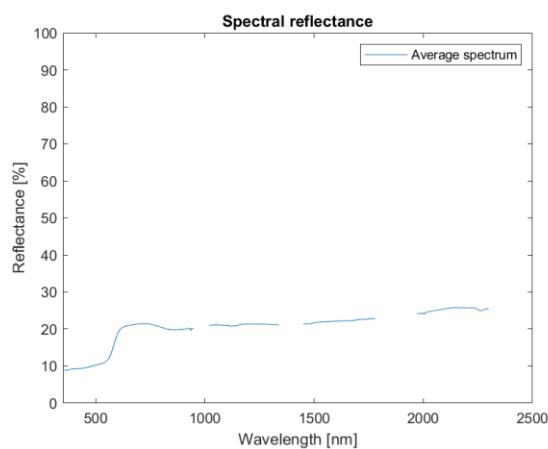
Index	H005
Class	Metal
Subclass	Paint-sprayed metal
Usage	Facade
Color	Grey
Surface structure/texture/coating	Paint-sprayed, smooth, reflective
Status	Weathered

Metal – H006



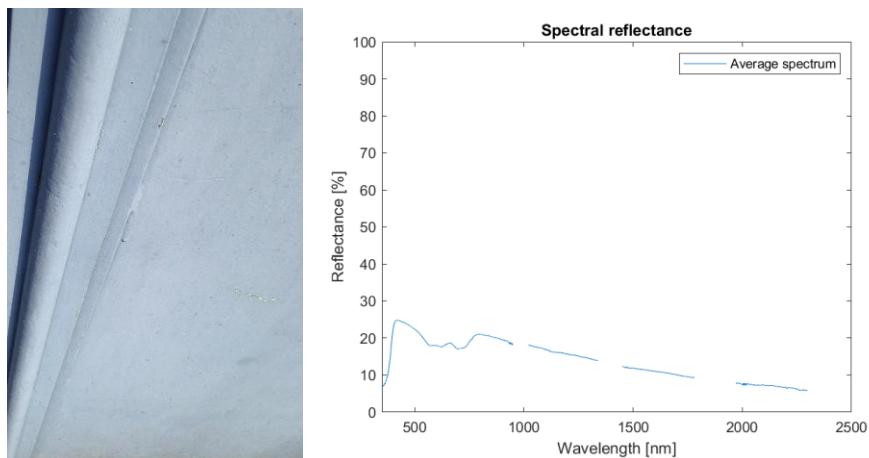
Index	H006
Class	Metal
Subclass	Paint-sprayed metal
Usage	Roof
Color	Grey
Surface structure/texture/coating	Paint-sprayed, smooth, reflective
Status	New

Metal – H007



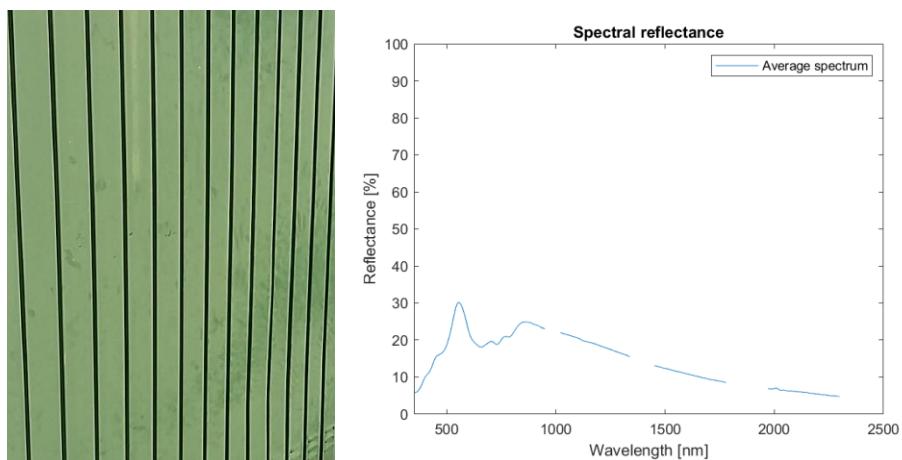
Index	H007
Class	Metal
Subclass	Paint-sprayed metal
Usage	Roof
Color	Red
Surface structure/texture/coating	Paint-sprayed, smooth, reflective
Status	New

Metal – H101



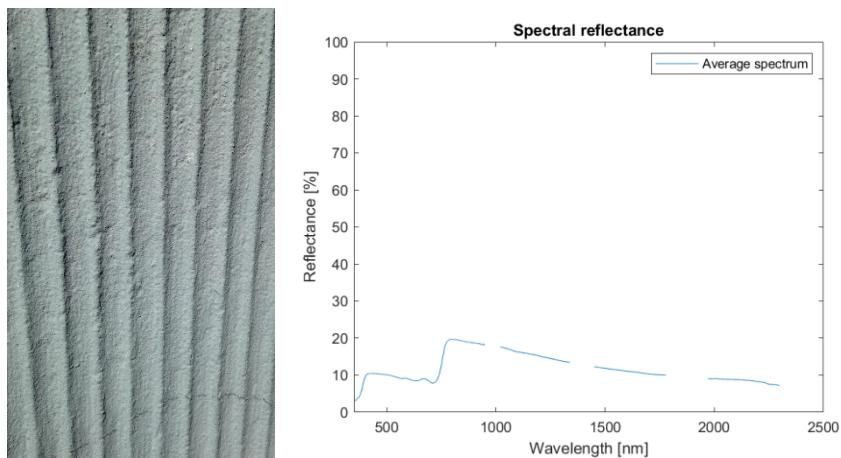
Index	H101
Class	Metal
Subclass	Painted metal
Usage	Facade
Color	Blue
Surface structure/texture/coating	Painted, smooth
Status	Weathered

Metal – H102



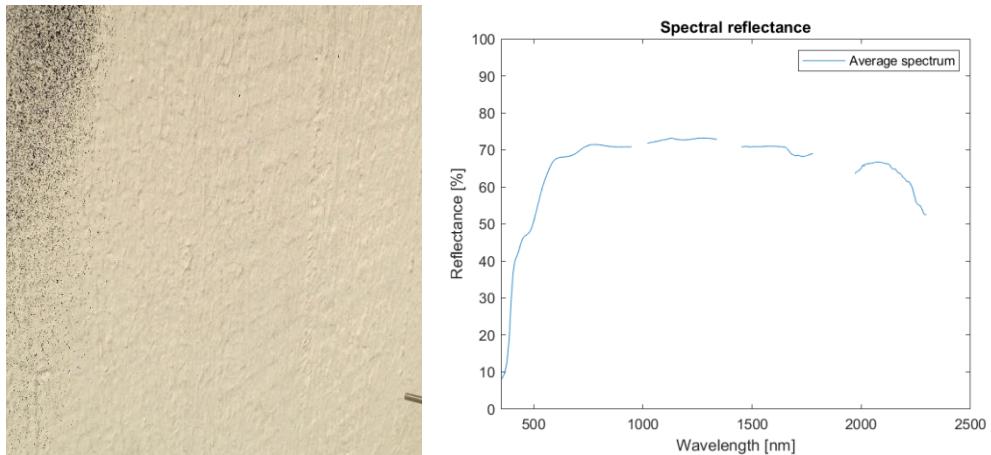
Index	H102
Class	Metal
Subclass	Painted metal
Usage	Facade
Color	Green
Surface structure/texture/coating	Painted, smooth
Status	Weathered

Metal – H103



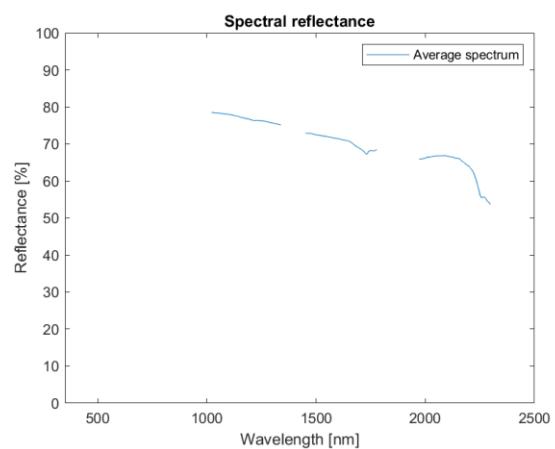
Index	H103
Class	Metal
Subclass	Painted metal
Usage	Facade
Color	Blue
Surface structure/texture/coating	Painted, corrugated, fine roughness
Status	Weathered

Plaster – I001



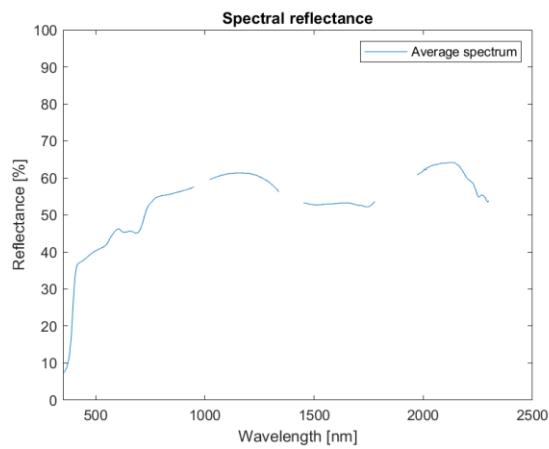
Index	I003
Class	Plaster
Subclass	Weathered bright plaster
Usage	Facade
Color	White
Surface structure/texture/coating	Popcorn
Status	Weathered

Plaster – I002



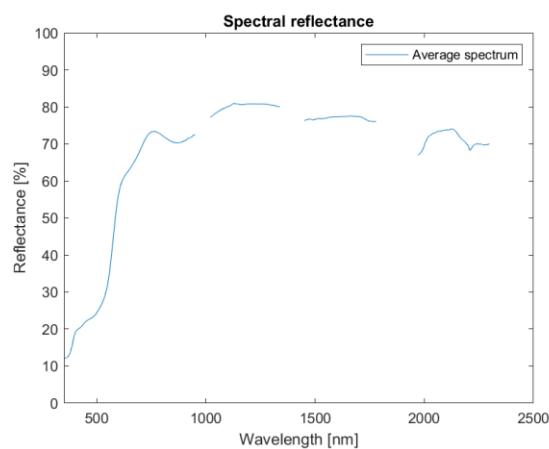
Index	I002
Class	Plaster
Subclass	Weathered bright plaster
Usage	Facade
Color	White
Surface structure/texture/coating	Popcorn
Status	Weathered

Plaster – I003



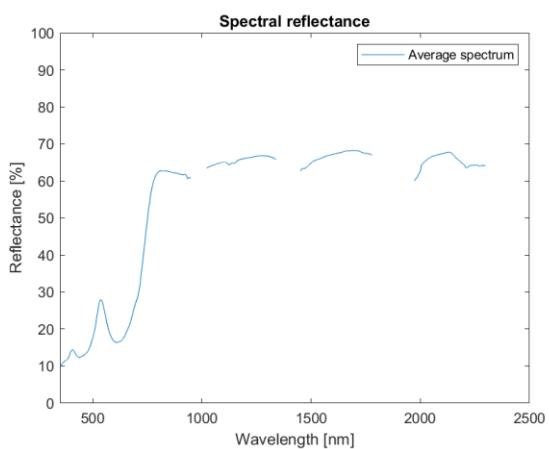
Index	I003
Class	Plaster
Subclass	Weathered bright plaster
Usage	Facade
Color	Grey
Surface structure/texture/coating	Fine roughness
Status	Weathered

Plaster – I101



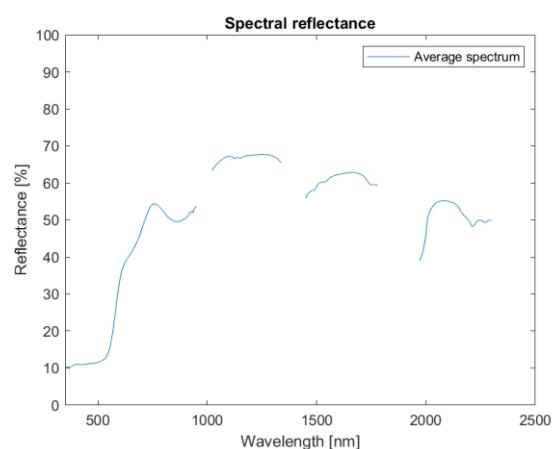
Index	I101
Class	Plaster
Subclass	Colored plaster
Usage	Facade
Color	Pink
Surface structure/texture/coating	Smooth
Status	Weathered

Plaster – I102



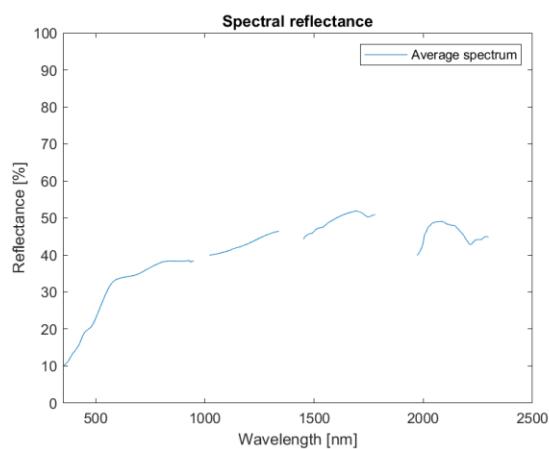
Index	I102
Class	Plaster
Subclass	Colored plaster
Usage	Facade
Color	Green
Surface structure/texture/coating	Smooth
Status	Weathered

Plaster – I103



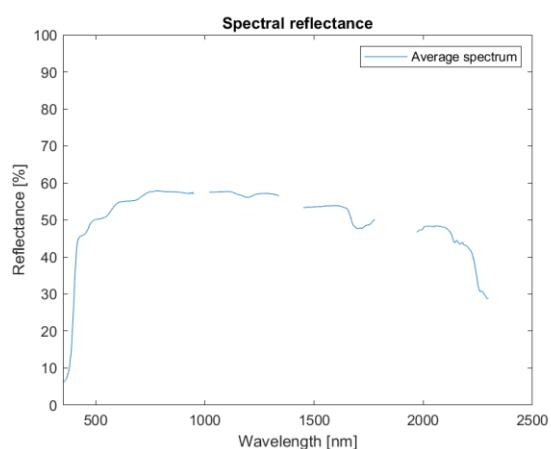
Index	I103
Class	Plaster
Subclass	Colored plaster
Usage	Facade
Color	Red
Surface structure/texture/coating	Smooth
Status	Weathered

Plaster – I104



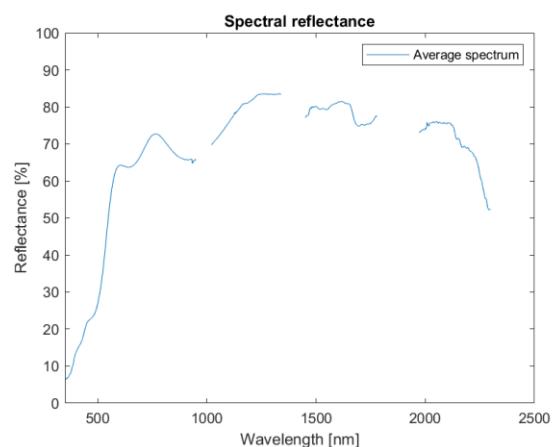
Index	I104
Class	Plaster
Subclass	Colored plaster
Usage	Facade
Color	White
Surface structure/texture/coating	Fine roughness
Status	Weathered

Plaster – I201



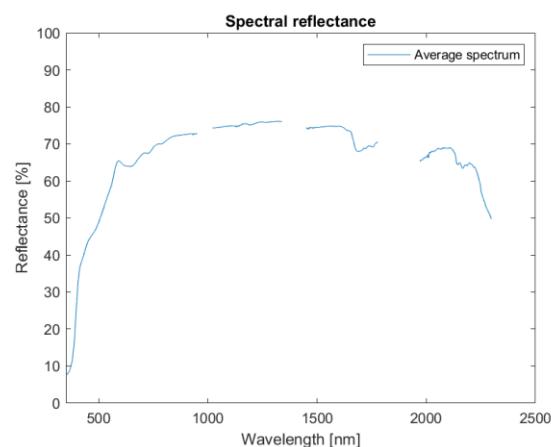
Index	I201
Class	Plaster
Subclass	Bright plaster
Usage	Facade
Color	White
Surface structure/texture/coating	Fine roughness
Status	New

Plaster – I202



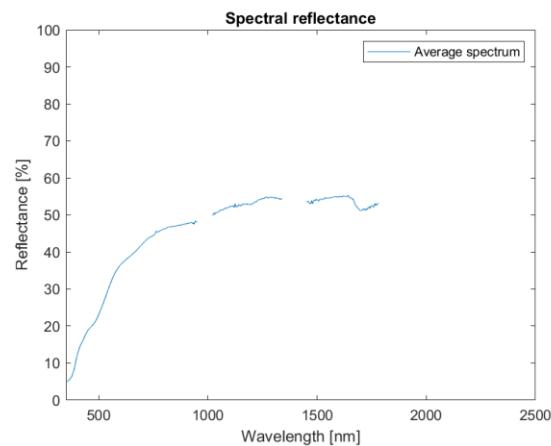
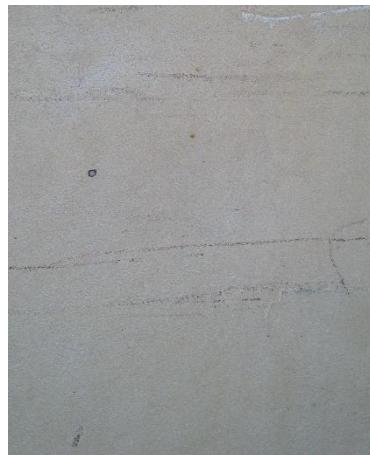
Index	I202
Class	Plaster
Subclass	Bright plaster
Usage	Facade
Color	Yellow
Surface structure/texture/coating	Popcorn
Status	New

Plaster – I203



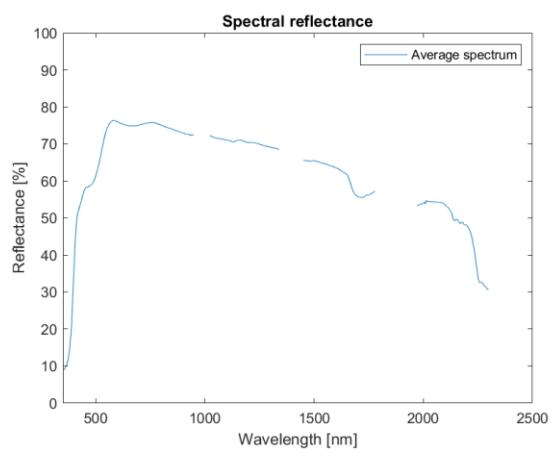
Index	I203
Class	Plaster
Subclass	Bright plaster
Usage	Facade
Color	Beige
Surface structure/texture/coating	Corrugated, uneven
Status	New

Plaster – I204



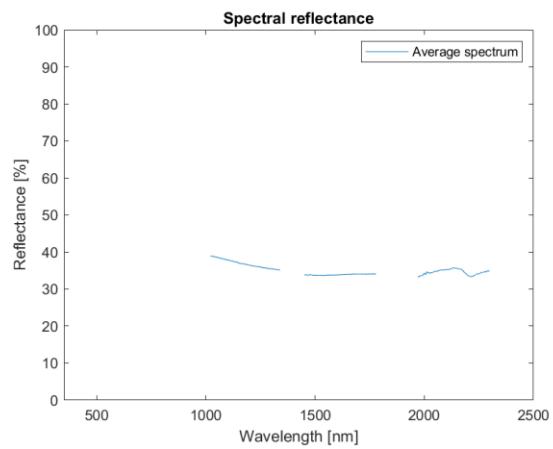
Index	I204
Class	Plaster
Subclass	Bright plaster
Usage	Facade
Color	Beige
Surface structure/texture/coating	Smooth
Status	Weathered

Plaster – I205



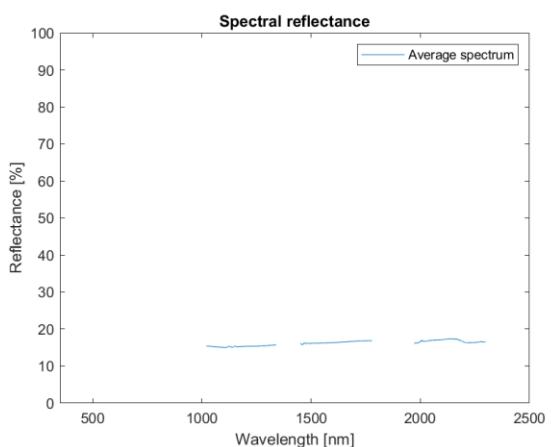
Index	I205
Class	Plaster
Subclass	Bright plaster
Usage	Facade
Color	White
Surface structure/texture/coating	Smooth
Status	Weathered

Sandstone – J001



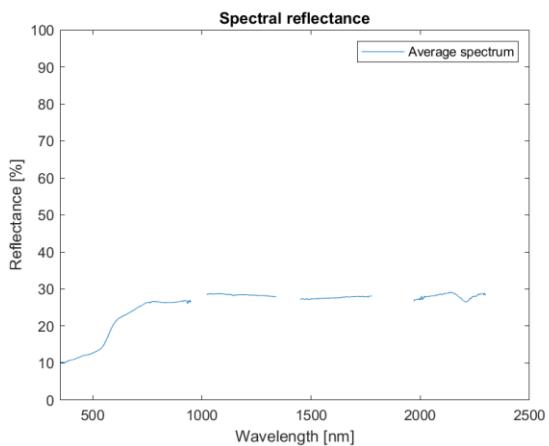
Index	J001
Class	Sandstone
Subclass	Red sandstone
Usage	Facade
Color	Red
Surface structure/texture/coating	Fine roughness
Status	Weathered

Sandstone - J002



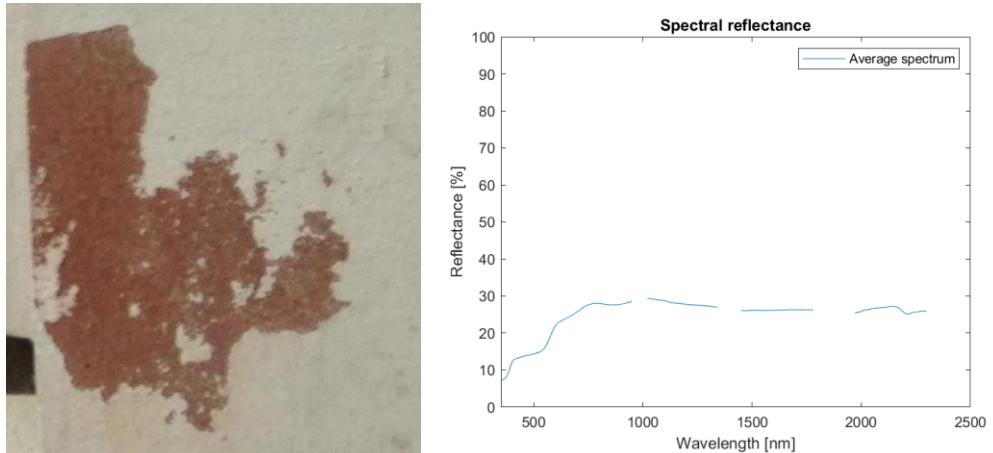
Index	J002
Class	Sandstone
Subclass	Red sandstone
Usage	Facade
Color	Red
Surface structure/texture/coating	Uneven
Status	Weathered

Sandstone - J003



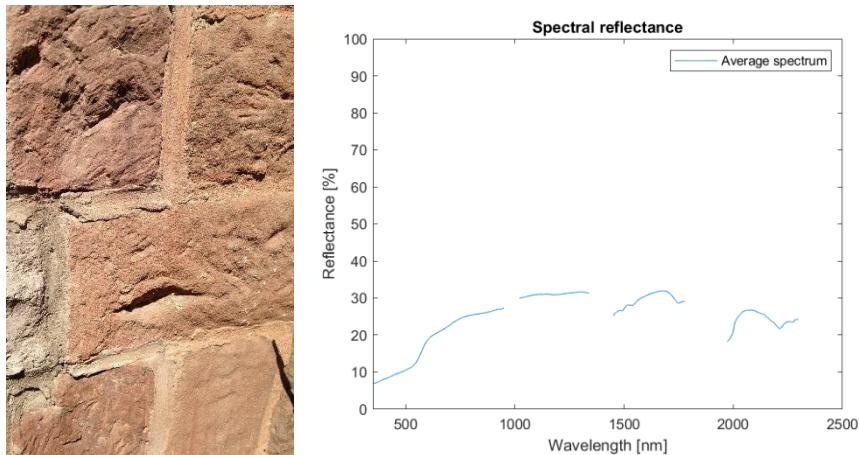
Index	J003
Class	Sandstone
Subclass	Red sandstone
Usage	Facade
Color	Red
Surface structure/texture/coating	Uneven
Status	Weathered

Sandstone – J004



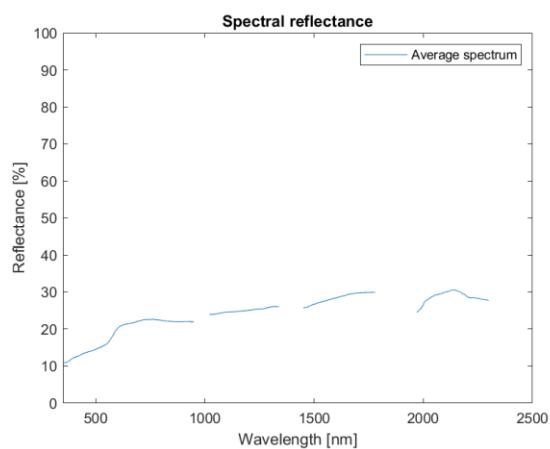
Index	J004
Class	Sandstone
Subclass	Red sandstone
Usage	Facade
Color	Red
Surface structure/texture/coating	Fine roughness
Status	Weathered

Sandstone – J101



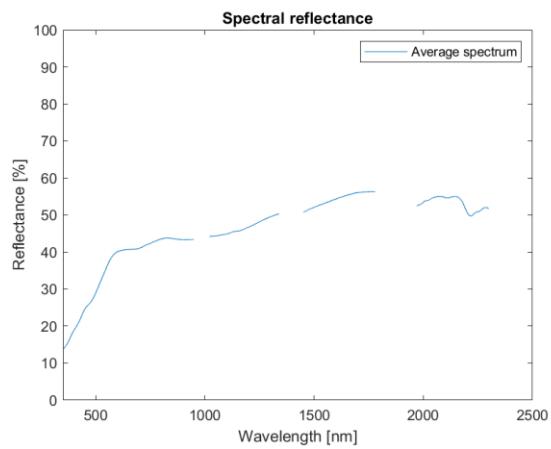
Index	J101
Class	Sandstone
Subclass	Weathered sandstone
Usage	Facade
Color	Red
Surface structure/texture/coating	Natural, uneven
Status	Weathered

Sandstone – J102



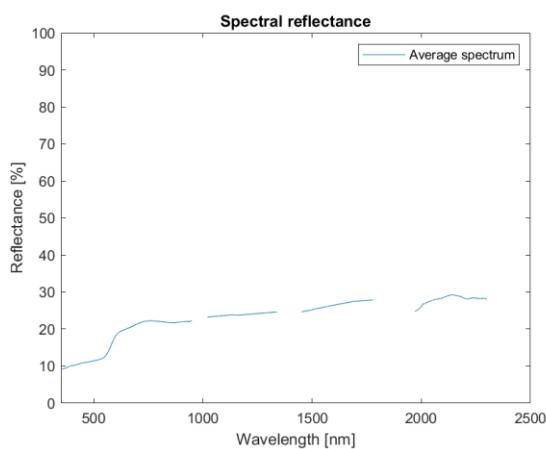
Index	J102
Class	Sandstone
Subclass	Weathered sandstone
Usage	Facade
Color	Red
Surface structure/texture/coating	Natural, uneven
Status	Weathered

Sandstone – J103



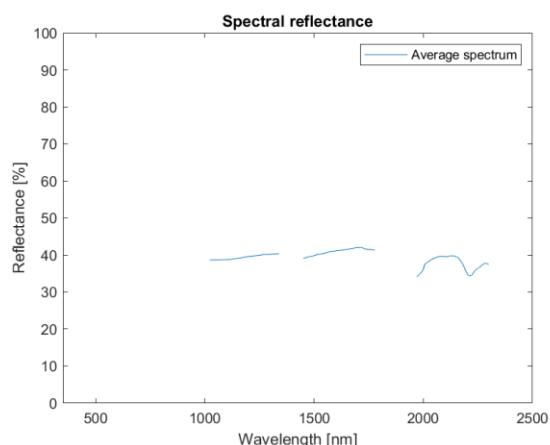
Index	J103
Class	Sandstone
Subclass	Weathered sandstone
Usage	Facade
Color	Red
Surface structure/texture/coating	Uneven
Status	Weathered

Sandstone – J104



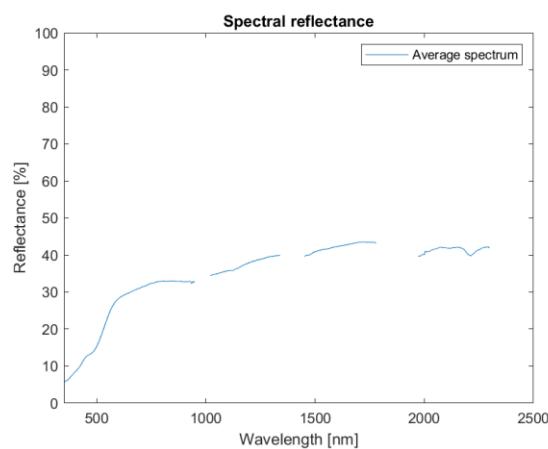
Index	J104
Class	Sandstone
Subclass	Weathered sandstone
Usage	Facade
Color	Red
Surface structure/texture/coating	Natural, smooth
Status	Weathered

Sandstone – J105



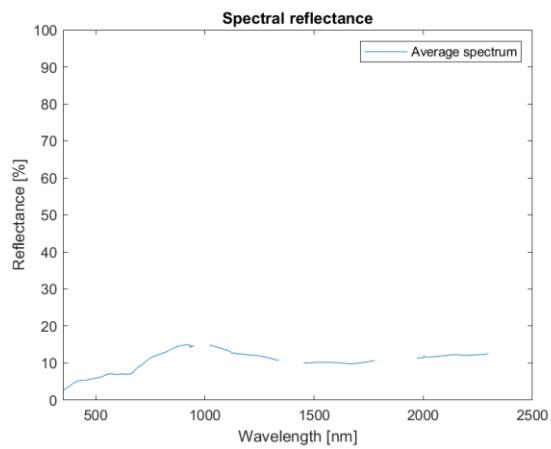
Index	J105
Class	Sandstone
Subclass	Weathered sandstone
Usage	Facade
Color	Red
Surface structure/texture/coating	Natural, uneven
Status	Weathered

Sandstone – J106



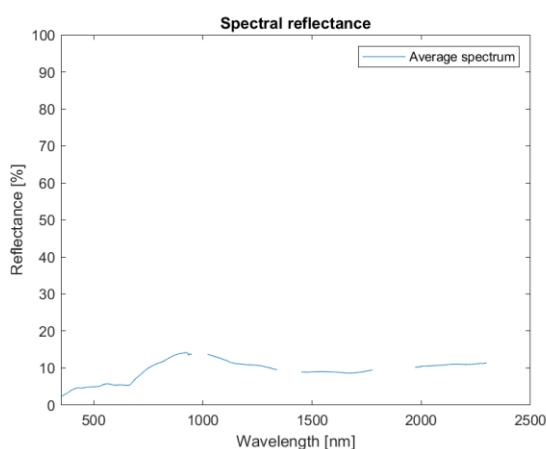
Index	J106
Class	Sandstone
Subclass	Weathered sandstone
Usage	Facade
Color	Yellow
Surface structure/texture/coating	Fine roughness
Status	Weathered

Sandstone – J201



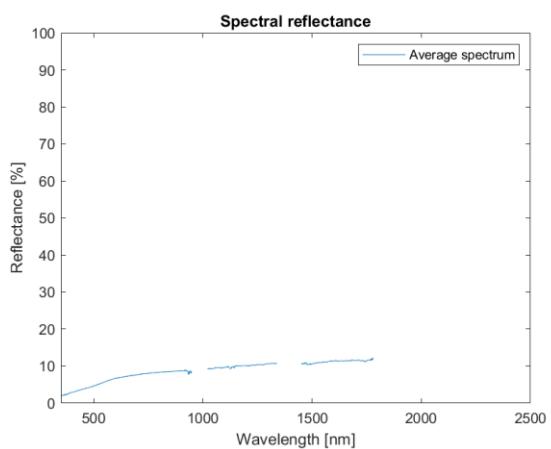
Index	J201
Class	Sandstone
Subclass	Beige sandstone
Usage	Facade
Color	Beige
Surface structure/texture/coating	Smooth
Status	New

Sandstone – J202



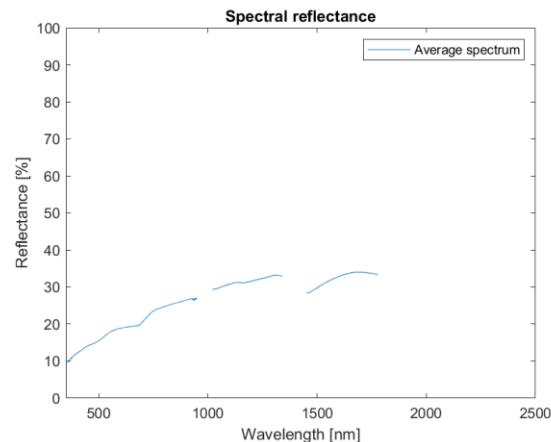
Index	J202
Class	Sandstone
Subclass	Beige sandstone
Usage	Facade
Color	Beige
Surface structure/texture/coating	Smooth
Status	New

Conglomerate – K001



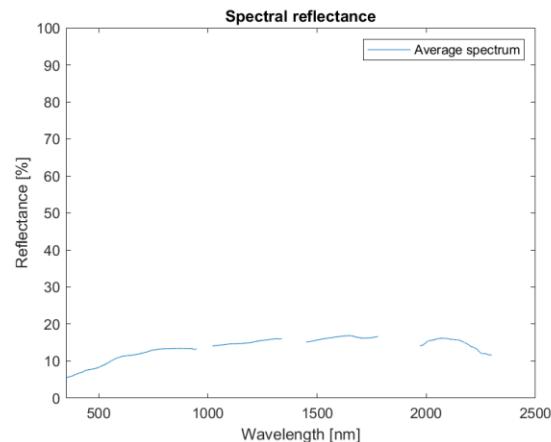
Index	K001
Class	Conglomerate
Subclass	Conglomerate
Usage	Ground
Color	Brown
Surface structure/texture/coating	Bare, fine roughness
Status	Weathered

Conglomerate – K002



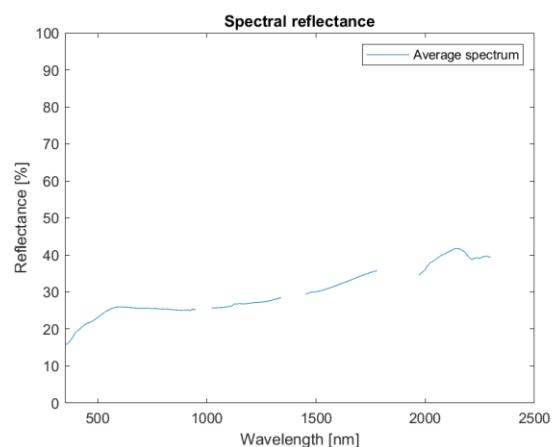
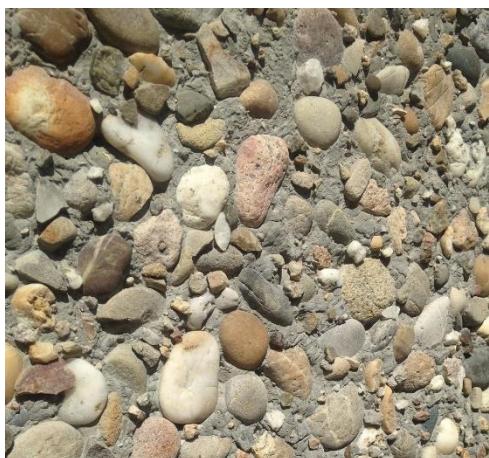
Index	K002
Class	Conglomerate
Subclass	Conglomerate
Usage	Facade
Color	Grey
Surface structure/texture/coating	Uneven
Status	Weathered

Conglomerate – K003



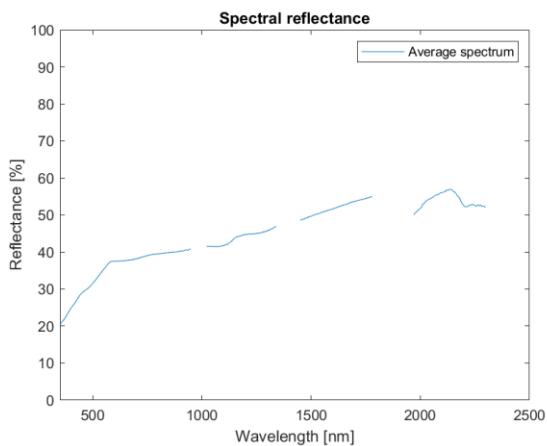
Index	K003
Class	Conglomerate
Subclass	Conglomerate
Usage	Facade
Color	Grey
Surface structure/texture/coating	Uneven
Status	Weathered

Conglomerate – K004



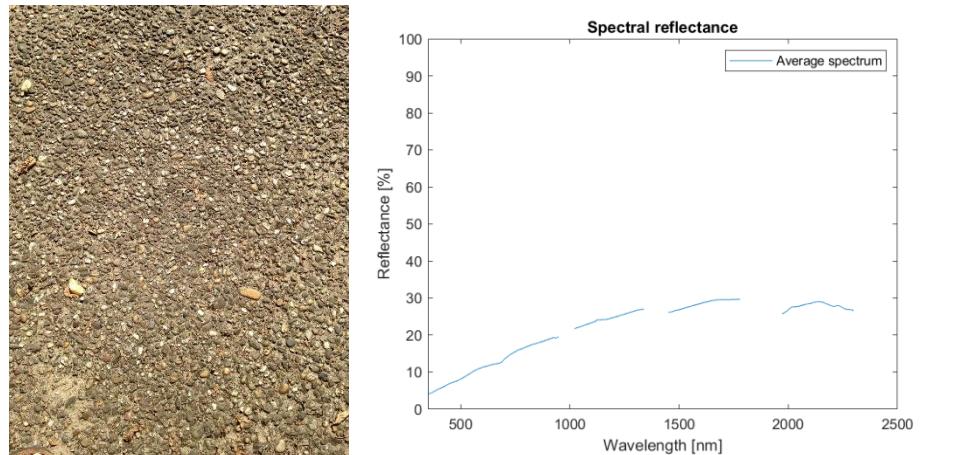
Index	K004
Class	Conglomerate
Subclass	Conglomerate
Usage	Facade
Color	Grey
Surface structure/texture/coating	Uneven
Status	Weathered

Conglomerate – K005



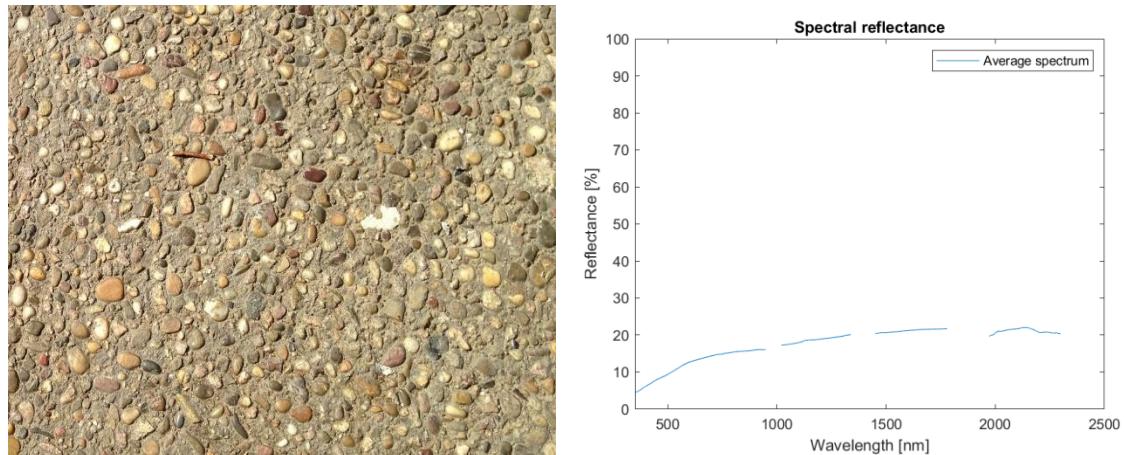
Index	K005
Class	Conglomerate
Subclass	Conglomerate
Usage	Facade
Color	Grey
Surface structure/texture/coating	Bare, uneven
Status	Weathered

Conglomerate – K006



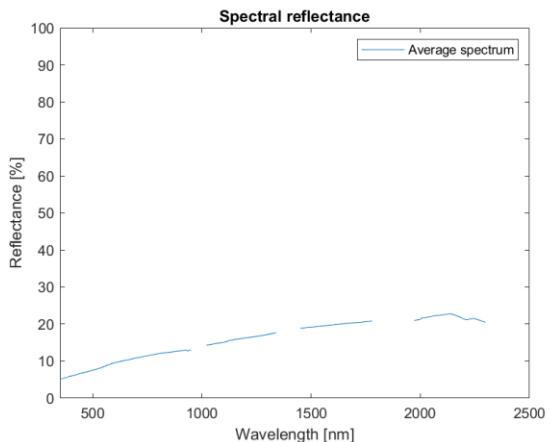
Index	K006
Class	Conglomerate
Subclass	Conglomerate
Usage	Ground
Color	Brown
Surface structure/texture/coating	Uneven
Status	Weathered

Conglomerate – K007



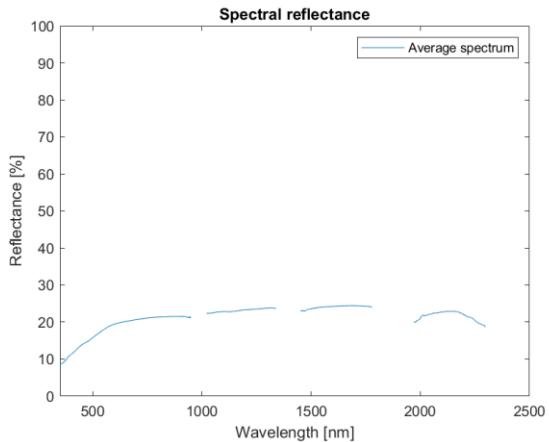
Index	K007
Class	Conglomerate
Subclass	Conglomerate
Usage	Ground
Color	Brown
Surface structure/texture/coating	Uneven
Status	Weathered

Conglomerate - K008



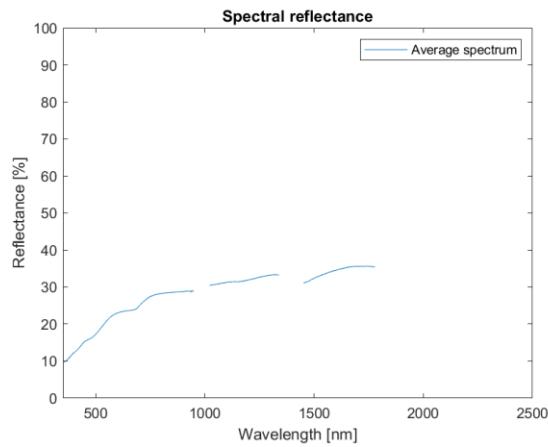
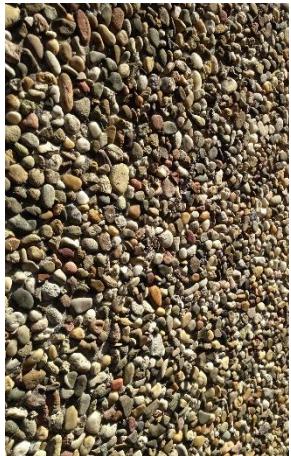
Index	K008
Class	Conglomerate
Subclass	Conglomerate
Usage	Ground
Color	Brown
Surface structure/texture/coating	Bare, uneven
Status	Weathered

Conglomerate - K009



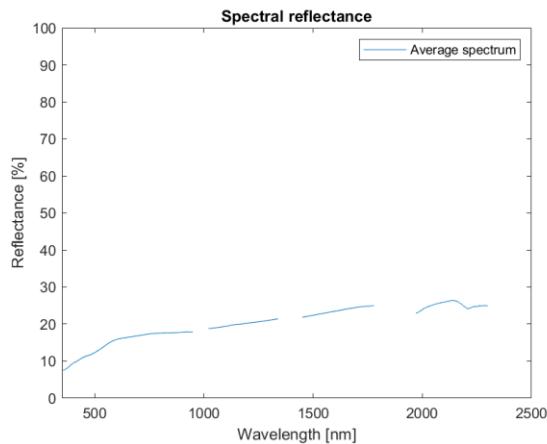
Index	K009
Class	Conglomerate
Subclass	Conglomerate
Usage	Facade
Color	Brown
Surface structure/texture/coating	Smooth
Status	Weathered

Conglomerate - K010



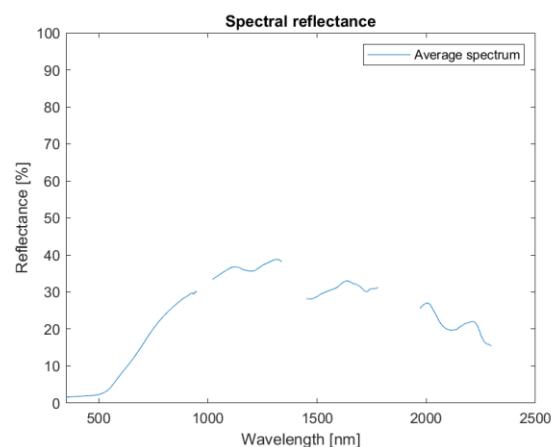
Index	K010
Class	Conglomerate
Subclass	Conglomerate
Usage	Facade
Color	Brown
Surface structure/texture/coating	Uneven
Status	Weathered

Conglomerate - K011



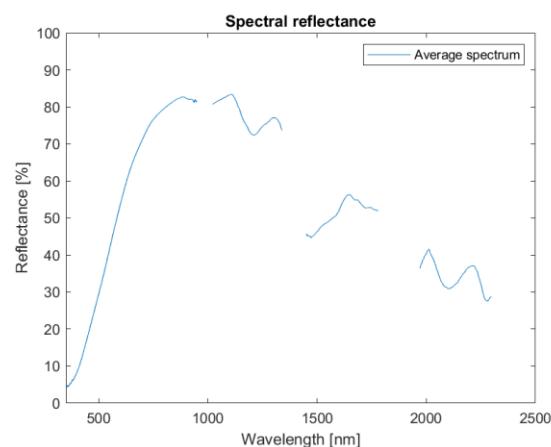
Index	K011
Class	Conglomerate
Subclass	Conglomerate
Usage	Ground
Color	Brown
Surface structure/texture/coating	Fine roughness
Status	Weathered

Wood - L001



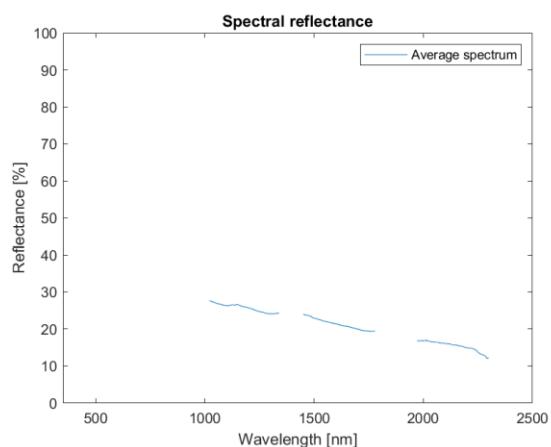
Index	L001
Class	Wood
Subclass	Varnished wood
Usage	Facade
Color	Brown
Surface structure/texture/coating	Varnished, smooth
Status	Weathered

Wood - L002



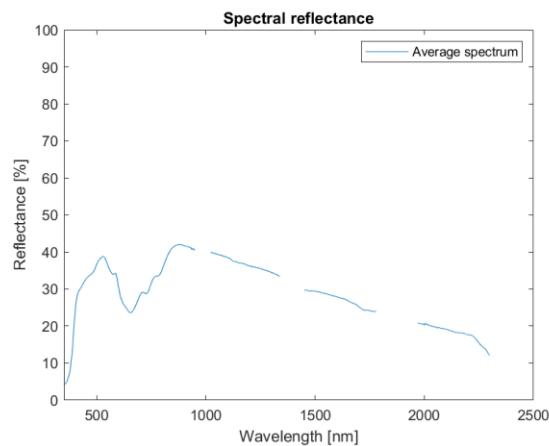
Index	L002
Class	Wood
Subclass	Varnished wood
Usage	Facade
Color	Brown
Surface structure/texture/coating	Varnished, smooth
Status	New

Wood - L101



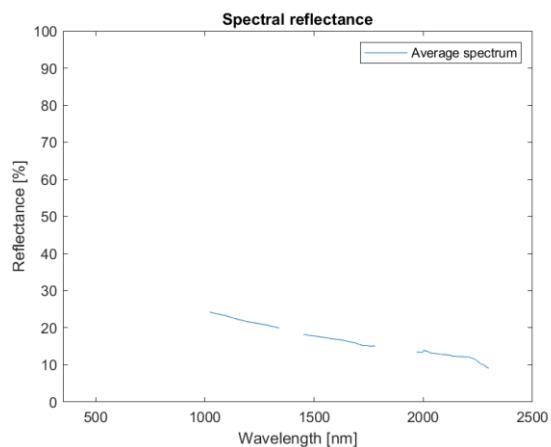
Index	L101
Class	Wood
Subclass	Painted wood
Usage	Facade
Color	White
Surface structure/texture/coating	Painted, smooth
Status	New

Wood - L102



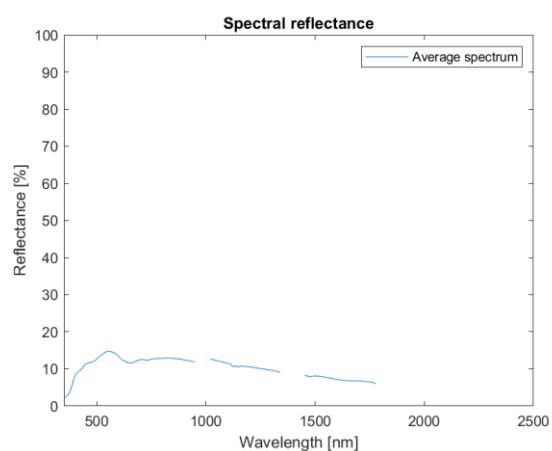
Index	L102
Class	Wood
Subclass	Painted wood
Usage	Facade
Color	Green
Surface structure/texture/coating	Painted, smooth
Status	Weathered

Wood - L103



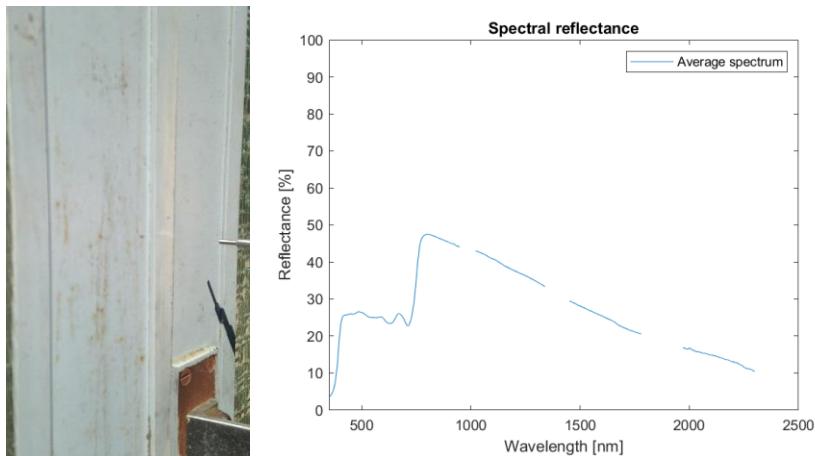
Index	L103
Class	Wood
Subclass	Painted wood
Usage	Facade
Color	White
Surface structure/texture/coating	Painted, smooth
Status	Weathered

Wood - L104



Index	L104
Class	Wood
Subclass	Painted wood
Usage	Facade
Color	Green
Surface structure/texture/coating	Painted, smooth
Status	New

Wood - L105



Index	L105
Class	Wood
Subclass	Painted wood
Usage	Facade
Color	Blue
Surface structure/texture/coating	Painted, smooth
Status	Weathered