

8 Dike Residences at the Paardekreek Kortgene



Calculation code	Description	Number	Unit
------------------	-------------	--------	------

0500

GENERAL

General description

client: Camping en Villapark de Paardekreek

architect : WTS architecten

constructor : Contek

surface / volume :

gross area	497.00	m2
------------	--------	----

gross volume	1535.00	m3
--------------	---------	----

number of residences	8.00	units
----------------------	------	-------

Design drawing:

WTS architects: no.228000

OMB-01 to OMB-04, dated 20-08-2020

Contek Serooskerke: no.19-381

Main calculations dated 24-08-2020

Building physics calculation dated 21-08-2020

EPC calculation dated 25-08-2020

MATERIAL LIST

Calculation code	Description	Number	Unit
1500	TERRAIN PAVEMENT		
	Retaining straps dim. 10x35x100cm, rear terrace	88.00	m1
2300	PREFAB CONCRETE PARTS		
	Prefab concrete: retaining wall elements for homes		
	Prefab block elements:		
	Elements h=350cm - foot 196cm	134.00	m1
	Transport costs wall elements	1.00	per piece
	Dimensioning elements	8.00	
	Crane costs place elements	24.00	o'clock
	Prefab concrete: retaining wall blocks in terraces		
	Prefab block elements:		
	*excl. walls with regards to		
	Elements h=300cm - foot 150cm, w=200cm	64.00	m1
	Elements h=250cm - foot 150cm, w=200cm	32.00	m1
	Elements h=250cm - foot 150cm, w=100cm	16.00	m1
	Elements h=125cm - foot 78cm, w=200cm	48.00	m1
	Sawing walls	128.00	m1
	-shorten + descending according to design drawing		
	Transport costs wall elements	1.00	per piece
	Dimensioning elements	8.00	
	Crane costs place elements	32.00	o'clock
	Prefab industrial plates	54.00	
	Concrete slabs dim. 200/100 x 200 x 14cm	1.00	per piece
	27 x 2 pieces		
	Delivery and application		
	Concrete slab dimensions	8.00	

Calculation code	Description	Number	Unit
2400	STRUCTURAL CARPENTRY		
	<i>All constructions + finishes are screwed/removable</i>		
2400	Ground floor 2x part 3 insulation requirement ground floor Rc = 4.5 m2.K/W	305.00	m2
	Underlayment plate, thickness 18 mm	334.00	m2
	Spruce beams, 38x235 mm, center to center 405 mm	1166.40	m1
	Torque control firing 38x89 mm	76.70	m1
	Steico Flex 038, 1x thick 120 mm	320.00	m2
	Steico Flex 038, 1x thick 100 mm	320.00	m2
	Waterproof vapor barrier plate RWH, thick 16 mm	334.00	m2
	Fasteners	305.00	m2
	Flooring	305.00	m2
2400	Ground floor 1x part 4 insulation requirement ground floor Rc = 4.5 m2.K/W	191.00	m2
	Underlayment plate, thick 18 mm	210.00	m2
	Spruce beams, 38x235 mm, center to center 305 mm	852.00	m1
	Torque control firing 38x89 mm	76.80	m1
	Steico Flex 038, 1x thick 120 mm	200.00	m2
	Steico Flex 038, 1x thick 100 mm	200.00	m2
	Waterproof vapor permeable plate RWH, thick 16 mm	210.00	m2
	Fasteners	191.00	m2
	Flooring	191.00	m2
2400	Roof floor 2x part 2 Terrace floor insulation requirement Rc = 7.4 m2.K/W -see additional insulation roofing par. 33	305.00	m2
	Edge beam roof curb spruce 70x270mm primed	163.20	m1
	Sterling OSB 3 thick 18 mm	336.00	m2
	Main spruce SLS, 38x89 mm, due to grade	844.80	m1
	Spruce beams, 38x285 mm, center to center 405 mm	1166.40	m1
	Torque control firing 38x89 mm	76.70	m1
	Steico Flex 038, 2x thick 140 mm	640.00	m2
	Damp-proof foil	336.00	m2
	Fasteners	305.00	m2
	Terrace flooring	305.00	m2
	Groundwood spruce, dim. 22x50mm	1067.00	m1
	Birch plywood B/BB WBP FSC Mix, thick 12 mm	217.00	m2

Bathroom ceiling plate see chap.45

Calculation code	Description	Number	Unit
2400	Roof floor 1x part 1 terrace floor insulation requirement $R_c = 7.4 \text{ m}^2 \cdot \text{K/W}$	191.00	m2
	Edge beam roof curb spruce 70x270mm primed	81.60	m1
	Sterling OSB 3, thick 18 mm	210.00	m2
	Firing wedge, SLS 38x89 mm, due to grade	537.60	m1
	spruce beams, dim. 38x285mm, center to center 305 mm	852.00	m1
	Torque control firing 38x89 mm	76.80	m1
	Steico Flex 038, thick 2x 140 mm	400.00	m2
	Damp-proof foil	200.00	m2
	Fasteners	191.00	m2
	Composing terrace flooring	191.00	m2
	Groundwood spruce, dim. 22x50mm	630.00	m1
	Birch plywood B/BB WBP FSC Mix, thick 12 mm	198.00	m2
2400	Exterior facades insulation requirement facade wall $R_c = 4.5 \text{ m}^2 \cdot \text{K/W}$ -incl. wall recesses	434.00	m2
	Birch plywood B/BB WBP FSC Mix, thick 12 mm	478.00	m2
	Vapor barrier	478.00	m2
	Fire SLS control system, dim. 38x184mm	1692.60	m1
	Steico Flex 038, 1x thick 100 mm	456.00	m2
	Steico Flex 038, 1x thick 80 mm	456.00	m2
	Waterproof vapor permeable plate RWH, thick 16 mm -incl. overlapBG floor + roof floor with curb	672.00	m2
	Fasteners	434.00	m2
	Assemble HSB wall	434.00	m2
	Cement fiber board thick 16 mm, below Level for the terraces		68.00 m2
	Tpv gables due to adjacent house		
	Fire-retardant construction board MDF E1 B-s1-d0, thick 12 mm m2		175.00
2400	Cladding Frake Noir	49.00	m2
	Groundwood spruce, dim. 28x45 mm, preserved	176.00	m1
	Fraké Noir model P01, dim. 18x140mm	431.20	m1
	Negge finish	153.60	m1
	Head sealer colorless	1.00	per piece
	Fasteners	49.00	m2

Calculation code	Description	Number	Unit
2400	eaves		
	Plywood strip 18 mm WBP (primed)	296.00	m1
	Firing bobbins, dim. 38x89x250 mm (primed) -center to center 600 mm for the concrete retaining walls	278.00	per piece
	Fasteners	296.00	m1
2400	Partition walls - load-bearing	144.00	m2
	Birch plywood B/BB WBP FSC Mix, thick 12 mm	159.00	m2
	Fire SLS control system, dim. 38x120mm	562.00	m1
	Steico Flex 038, thick 120 mm	151.00	m2
	Birch plywood B/BB WBP FSC Mix, thick 12 mm	159.00	m2
	Fasteners	144.00	m2
	Assemble wall	144.00	m2
2400	Partition walls - non load-bearing	128.00	m2
	Birch plywood B/BB WBP FSC Mix, thick 12 mm	141.00	m2
	Fire SLS control system, dim. 38x89mm	500.00	m1
	Steico Flex 038, thick 80 mm	135.00	m2
	Birch plywood B/BB WBP FSC Mix, thick 12 mm	141.00	m2
	Fasteners	128.00	m2
	Assemble wall	128.00	m2
2400	Miscellaneous (structural carpentry)	8.00	
	Wooden support #300, awning rear gable	16.00	
	Installation facilities in HSB walls	8.00	per piece
	Assembly HSB (location site construction company Rijk)	8.00	
	Assembly HSB (location De horse creek)	8.00	
	Car crane assembly (location site bbEmpire)	32.00	o'clock
	Crane costs assembly HSB (de horse creek)	64.00	o'clock
	Placing/removing scaffolding	50.00	m2
	Transport scaffold	50.00	m2
	Rent jetty	16.00	wkn
	Various auxiliary materials and confirmations	8.00	per piece
2500	METAL CONSTRUCTION WORK		
	Underlays ground floor HE 140A	8.00	
	Steel beam HE140A, hot dip galvanized	32.00	

Calculation code	Description	Number	Unit
	Purchase steel	3794	kg
	Transportation costs	1.00	per piece
	Laying steel girders with a crane	32.00	
	Anchoring steel beams	32.00	
2500	Steel profiles awning construction	8.00	
	3x UNP 300, hot dip galvanized	360.00	m1
	Purchase steel	16632.00	kg
	Drilling holes related to coupling and dewatering	48.00	per piece
	Transportation costs	1.00	per piece
	Connecting steel beams	48.00	
	Laying steel beams	48.00	
	Crane costs for placing awnings	24.00	o'clock
	EPS justification due to reduction in land tax	120.00	m1
	Drainpipe Ø 80 => by INFRA		
3000	FRAMES, WINDOWS AND DOORS		
3000	Wooden exterior frames	227.00	m2
	Supply wooden frames / doors	1.00	per piece
	Iroko KOMO finger joint, incl. FSC		
	-brand 1: lifting sliding door 5000x2400mm *2x sliding door and 2x fixed door	16.00	
	- brand 2: turn-tilt window 900x2400mm Larch finger jointed and laminated	16.00	
	-brand 3: interior door frame * draft profile windows Deventer 6699	16.00	
	Doors/windows hinges and locks, incl. Profile cylinder sliding doors	16.00	
3000	Interior doors:		
	Stubby fire interior door	16.00	
	Install front doors, see par. 24.90		
	Recessed wooden window frames in HSB wall	16.00	
	Built-in wooden interior door frames in HSB wall	16.00	
	Hanging of interior doors	16.00	
	Hinges and locks + interior door fittings	16.00	
	Carpentry inside exterior frames Iroko	248.00	m1
	Connection frames all around	343.00	m1
3400	Glazing and ventilation grilles:	1.00	per piece
	-HR++ 2 sided laminated 33.1-15-33.1		

-Duco valve ZR in color
No painting included!

Calculation code	Description	Number	Unit
3000	Sliding bathroom doors	16.00	
	Rail system built-in	16.00	
	Stubby fire interior door	16.00	
	sliding door bowl	16.00	per piece
	Free and occupied slot	16.00	
	No painting included!		
3000	cabinet doors	8.00	
	wall/door cabinets:		
	Birch plywood B/BB WBP FSC Mix, thick 18 mm	88.03	m2
	Firing control, dim. 44x44mm	184.00	m1
	Piano hinges + cabinet lock	32.00	per piece
	cabinet edges	60.00	m1
3300	ROOF COVERINGS		
3300	Roofing Derbigum		
	Flat roof roofing:		
	roof insulation Rokwool Rhinoux thick 60 mm	528.00	m2
	Derbigum (ecological) roofing material	910.00	m2
	glue in 2xHWA, 1x vent., 3xCV/MV		
	paste curbs around		
	-incl. overlap eaves		
	-incl. upholstery canopies		
	-incl. upholstery trim floor edgefor terraces		
	mounting security by mobile scaffolding see chap.05		
3400	GLAZING		
	See facade frames par. 30.41		
3800	shading		
	Sun protection inside and outside N/A		

Calculation code	Description	Number	Unit
4500	CONSTRUCTION CARPENTER WORK		
	Finishing bathroom walls	323.00	m2
	Fibo Trespo Cement 2204 M10 purchase 15 pcs, plate size 620x2400mm	338.00	m2
	Part freight fibrosis	1.00	per piece
	Start, end and bottom profile, lg=2400mm	56.00	
	Inside angle 90 degrees, lg=2400mm	32.00	
	Outside angle 90 degrees, lg=2400mm	16.00	
	Fibo seal tubes gray	60.00	
	Fasteners	2000.00	
	Applying wall plates	323.00	m2
	Birch plywood B/BB WBP FSC Mix, thick 12 mm	-355.00	m2
	base plate walls bathrooms Sterling OSB 3, thick 12 mm	355.00	m2
4500	Bathroom ceiling trim	57.60	m2
	Fibo Trespo Cement 2204 M10 purchase 3 pc, plate size 620x2400mm	63.40	m2
	Fibo seal tubes gray	10.80	
	Fasteners	360.00	
	Installing ceiling panels	57.60	m2
4500	Various finishes	8.00	
	Meter cupboard boards (back panel) 18 mm OSB 3	48.80	m2
	Groundwood spruce dim. 22x50mm	192.00	m1
	Floor skirting boards N/A		
	House numbers N/A		
4600	PAINTING- N/A		
4700	KITCHEN DESIGN- By a third party		
5000	INSTALLATIONS - By a third party		
	Architectural facilities installations	8.00	

Circular design proposal:

Material code	Business as usual practices	Circular design proposal	(9)R-Strategy
1500	Outdoor concrete flooring	Terrain pavement – no fixed fixtures, no preparatory concrete pour below the pavement.	Rethink
2300	Poured concrete walls with reinforced steel.	Pre-fabricated concrete blocks composed of recycled concrete. Stacked like Lego blocks	Rethink/ Reuse
2400	Metal, or concrete slab.	Wood structure: construction and finishing with screwed rather than adhesives (not sure if it is correctly translated)	Rethink
3000	Frames, Windows and doors	Frames, Windows and doors	N/A
3400	Glazing	Glazing	N/A
3800	Limited shading with additional AC installations	Shading	Reduce (Energy saving)
4500	Dry wall systems with polyester or other non biobased materials.	Wood construction	Reduce
4600	Painting	Most wooden surfaces left unpainted, save but veneer.	Refuse
4700	Kitchen Design		Reuse
5000	Installations		Repair/Reuse
	Glass wool insulation material	Wood-based insulation (e.g. Steico Flex) for ground, roof, partition walls, and exterior facades	
		Rear awning - reuse bollards (recycle material) as supports for awning	Reuse/ Recycled
	Roofing material, made of copper or clay	Green (ecological) roofing material (such as Derbigum)	Reduce
	Construction that does not allow for reuse, and would need to be demolished.	Other various materials are composed of recycled materials, and screw installation so that all parts can be easily disassembled, after which they can be reused again	Rethink/ Recycle/ Repurpose/ Reuse
	New table	Re-use gym floor for table top	Reuse
	New rubbish bin	Re-use “semi-antique” rubbish bin	Reuse
	Conventional cleaning whose chemicals might be detrimental to the wooden structure and biobased materials.	<i>Intend to source for “green” cleaning company – using less water, using green cleaning products</i>	Reduce
	Conventional shampoo, from unrecycled material	<i>Shower gel and shampoo in the accommodation is vegan, free of sulfates and dyes and packed in a refillable plastic bottle made of 100% recycled plastic.</i>	Recycle/ Rethink

	Fossil fuelled thermal charging station	<i>Hot water is provided by the FlexTherm Eco, which is a thermal charging station. It converts electricity directly into heat and stores it for hot water supply. With its compact design and efficient operation, FlexTherm Eco fits into any home and is very economical (energy label A+ for standby losses).</i>	Rethink
	Conventional shower head	<i>In the bathroom is a water-saving shower head</i>	Refuse/ Reduce
	Conventional flour	The welcome set with pancake flour comes from the local mill	Reduce
	Gas- or petrol- fuelled transportation	Bringing sheets and doing breakdowns is done by bicycle or electric vehicle	Reduce
	N/A	<i>Solar panels</i>	Rethink