COMPARATIVE ANALYSIS OF THE MOST COMMONLY USED FAÇADE SYSTEMS

Flexible ceramics PHOMI SLATE slabs of 1200x600mm, 600x300mm - "wet system"	
System materials	Price for m²
Mineral wool insulation, 120 mm, 115kg/m³	
PHOMI MCM Slate: 1200x600mm or 600x300mm	
Glue for attaching of insulation	
Metal dowel 10*200, 6 pcs	
Reinforcing and waterproofing mixture	
Façade glass mesh	
Adhesive for attaching PHOMI slabs, class C2TE	
Water repellent (non-mandatory for all cases)	
Labor cost	
Total cost (materials+labor)	**100%**
Cost of windows slopes/doors (material+labor)	100%
Total immediate solution cost equivalent =	100%

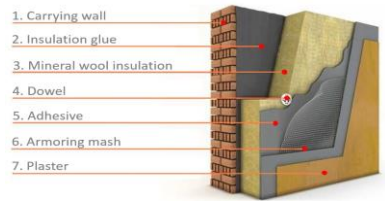
Flexible ceramics PHOMI BRICK "wet system"	
System materials	Price for m²
Mineral wool insulation, 120 mm, 115kg / m³	
PHOMI MCM Brick A	
Glue for attaching of insulation	
Metal dowel 10*200, 6 pcs	
Reinforcing and waterproofing mixture	
Façade glass mesh	
Adhesive for attaching PHOMI slabs, class C2TE	
Water repellent (non-mandatory for all cases)	
Labor cost	
Total cost (materials+labor)	**95%**
Cost of windows slopes/doors (material+labor)	125%
	98%

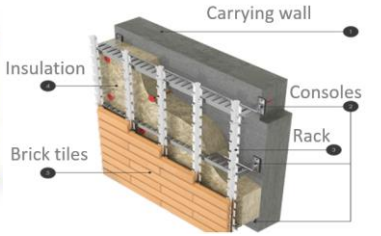
Common plaster façade "wet system"	
System materials	Price for m²
Mineral wool insulation, 120 mm, 115kg/m³	
Silicone-silicate facade plaster, 1.5 mm	
Glue for attaching of insulation	
Metal dowel 10*200, 6 pcs	
Reinforcing and waterproofing mixture	
Façade glass mesh	
Primer - quartz paint	
Labor cost	
Total cost (materials+labor)	**65%**
Cost of windows slopes/doors (material+labor)	70%
	66%

Ventilated façade systems imitating brickwork - fine-grained concrete tiles	
System materials	Price for m²
Mineral wool insulation, 160 mm, 50-80 kg/m³	
Brick tiles	
Rack	
Crossbar	
Console	
Thermal strip	
Metal dowel 4 pcs	
Self-tapping screws	
Labor cost	
Total cost (materials+labor)	**202%**
Cost of windows slopes/doors (material+labor)	125%
	194%

1. Glue for attaching of insulation
2. Mineral wool for façade 50-200 mm, 115 kg/m²
3. Dowel with metallic nail
4. Putty and reinforcing mixture
5. Alkali-resistant glass mesh, 160 g/m
6. Elastic glue, class C2T
7. PHOMI MCM slabs

1. Glue for attaching of insulation
2. Mineral wool for façade 50-200 mm, 115 kg/m²
3. Dowel with plastic nail
4. Putty and reinforcing mixture
5. Alkali-resistant glass mesh, 160 g/m²
6. Elastic glue, class C2T
7. PHOMI MCM facing brick





Advantages
Brilliant appearance of natural stone for low cost; range of textures
High speed & ease of installation, does not require high qualification
Flexibility, suitable for finishing rounded shapes and columns
Light weight (no excessive load on the building's fundament)
Water vapor permeability (diffusion-open structure)
Easy to fix (just area required), possible of change color with paint
Absence of cold joints; water repellent effect possible
Possibility of combination with any wet façade systems
Highest ecological value at all stages of slabs life
Best-looking slopes comparing to all other systems
Best shock resistance of all systems when applied on the surface
10 times more sustainable then ceramics or ceramogranite
First 30 years exploitation allowing the effect and functionality better then of ceramogranite ventilated façade for the cost of stuck
Disadvantages
"Wet" installation above +5C°
Installation is recommended during dry weather
Total cost within 30 years
No specialized inspection required
Total maitanace cost 0%
TOTAL SOLUTION COST, 30 YEARS, EUR 100%
TOTAL SOLUTION COST, 30 YEARS, EUR ge: 95-105%

Advantages
Great appearance of klinker
Flexibility, suitable for finishing rounded shapes
Ease of installation, does not require high qualifications
Light weight, mechanical strength when applied on the surface
Water vapor permeability, diffusion-open structure
Easy to fix, possible to change color with paint
Much faster and cheaper installation then typical kliner
A version on the net is available for even faster installation
Absence of cold joints; water repellent effect is possible
Highest ecological value at all stages of tiles life
Best shock resistance of all systems when applied on the surface
9.5 times more sustainable then classical clinker
First 30 years exploitation allowing the effect and functionality of klinker ventilated façade for the cost of stuck
Disadvantages
"Wet" installation above +5C°
Installation is recommended during dry weather
If separate bricks - slower speed of application (but can be used PHOMI brick seria on the net for much faster installation).
Total cost within 30 years
No specialized inspection required, 0 maintanance cost.
Total maitanace cost 0%
TOTAL SOLUTION COST, 30 YEARS, EUR 98%
Total system type cost range: 95-100%

Advantages
Low initial solution cost
Wide spectrum of color variations
Possible to repaint into other color
Light weight (no ecessive load on the building's fundament)
Absence of cold joints
Disadvantages
"Wet" installation above +5C°; dry weather installation
Worse of all systems shock resistance + impossibility to fix without trac
Repainting every 7-10 years required, difficult to clean
Limitation in textures
Colors are intencively degrading by UV, especially dark shades
Cheap look. Fast loosing initial look.
Highest maitanance cost, time consuming maintanace
Facade maintenance cost during 30 years
In case of at least thrice painting in 30 years - without reparing: Scaffolding (rent+assembling) x3 Labor x3 Paint x3 Administrative costs
Total maitanace cost 61%
TOTAL SOLUTION COST, 30 YEARS, EUR 127%
Total system type cost range: 115-140%

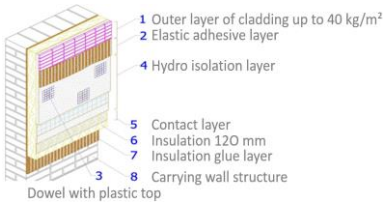
Advantages
All-year-round installation
Speed of installation
Relatively high shock resistance
Disadvantages
Limited choice of design - bricks imitation
Poor resemblance of real brick
Complicated works with the brick walls slopes - high price
Use of metal on the windows and doors slopes
Cheap look
High system weight 46-47 kg/m² with impact on fundament cost
Total cost within 30 years
Inspection of fixings on the wall
Total maitanace cost 1%
TOTAL SOLUTION COST, 30 YEARS, EUR 195%
Total system type cost range: 140-250%

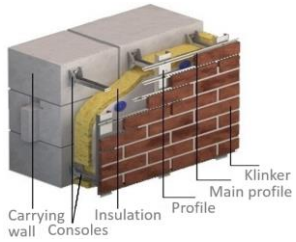
Klinker or natural stone façade (weight: from 18kg/m²) - "wet system"	
System materials	**Price for m²**
Mineral wool insulation, 120 mm, 145kg/m³	
Klinker, stone, ceramogranite (average quality)	
Glue for attaching of insulation	
Metal dowel 10*200, 10 pcs	
Reinforcing and waterproofing mixture	
Façade glass mesh + armored facade mesh	
Adhesive for attaching slabs, class C2TE s1	
Grout for joints	
Pigment and water repellent	
Labor cost	
Total cost (materials+labor)	**228%**
Cost of windows slopes/doors (material+labor)	195%
	225%

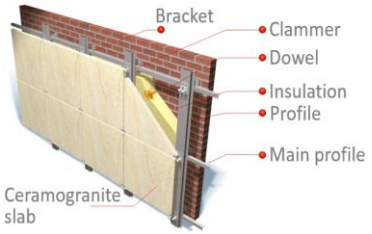
Aluminium composite pannels ventilated facade	
System materials	**Price for m²**
Mineral wool insulation, 160 mm, 50-80 kg/m³	
Aluminium composite pannels 4mm	
Profile, bracket, dowels, hardware	
Thermal strip	
Metal dowel 4 pcs	
Self-tapping screws, anchors, rivets	
Labor cost	
Total cost (materials+labor)	**287%**
Cost of windows slopes/doors (material+labor)	160%
	274%

Natural klinker ventilated facade	
System materials	**Price for m²**
Mineral wool insulation, 160 mm, 50-80 kg/m³	
Natural klinker panels	
Profile, bracket, thermal gasket	
Thermal strip	
Metal dowel	
Self-tapping screws, anchors, rivets	
Labor cost	
Total cost (materials+labor)	**314%**
Cost of windows slopes/doors (material+labor)	166%
	299%

Ceramogranite ventilated façade	
System materials	**Price for m²**
Mineral wool insulation, 160 mm, 50-80 kg/m³	
Ceramogranite (average price)	
Profile, bracket, thermal gasket	
Thermal strip	
Metal dowel 4 pcs	
Self-tapping screws, anchors, rivets	
Labor cost	
Total cost (materials+labor)	**427%**
Cost of windows slopes/doors (material+labor)	150%
	399%







Advantages
Possibility of natural materials use
Nice look
Wide scale of choice of klinker, natural stone, ceramogranite
Disadvantages
"Wet" installation above +5C°
Limited possible installation height without ventilated façade frame
Quality control and architectural supervision required
Possible efflorescence at the seams
Possible high system weight with impact on foundation cost
Very high CO_2 trace in case of klinker use
System cost
Total cost within 30 years
No specialized inspection required
Total maitanace cost 0%
TOTAL SOLUTION COST, 30 YEARS, EUR 225%
Total system type cost range: 150-300%

Advantages
All-year-round installation
Speed of installation
Easiness of fixing
Extencive choice of aluminium composite panels colors
Possibility of re-painting
Disadvantages
High system cost
Unnatural look of the panels, painted metal
Delivery time
Expencive fire-safe membrane
High CO_2 trace, other impacts on ecology during production phase
High system weight 35+kg/m² with impact on foundation cost
Total cost within 30 years
Inspection of fixings on the wall
Total maitanace cost 1%
TOTAL SOLUTION COST, 30 YEARS, EUR 275%
Total system type cost range: 250-300%

Advantages
All-year-round installation
Easy to fix by exchange the elements
Relatively high shock resistance
Natural klinker
Good choice of textures and colors
Disadvantages
Very high system cost
Terms of production and delivery
Installation requires trained specilsts
Very high CO_2 trace (energy-intence production process)
High system weight 35+kg/m² with impact on foundation cost
Total cost within 30 years
Inspection of fixings on the wall
Total maitanace cost 1%
TOTAL SOLUTION COST, 30 YEARS, EUR 300%
Total system type cost range: 250-350%

Advantages
All-year-round installation
Speed of installation
Easiness of fixing, changing of the tiles
Wide range of colors and textures
Good look of ceramogranite
Disadvantages
High system cost (in case of HPL tiles - from 120 EUR/m²)
Terms of production and delivery
Relatively fragile system
Very high CO_2 trace (energy-intence production process)
High system weight 35+kg/m² with impact on foundation cost
Total cost within 30 years
inspection of fixings on the wall
Total maitanace cost 1%
TOTAL SOLUTION COST, 30 YEARS, EUR 400%
Total system type cost range: 250-600%

* This document indicates the generalized price ratios and analyzes main characateristics of different façade systems. The indicated indexes are for the very general reference only and may differ from market to market, on customer type and sightly change through time. The current veryision is of 15.04.2022.