

## Natural stone elements - walls, fences, steps, ramps, paths, walls Stonelement Oy

**STONELEMENT®**

A stone element made from natural Finnish stone is an eco-friendly, versatile, quality and lasting product. Stone elements have a consistent structural layer with no separate layers of mortar or pointing. Stone elements have a very small carbon footprint and their natural materials are almost 100 % recyclable. Stone elements are made as Finnish industrial handicraft at the stone element manufacturing plant in Pirkanmaa. Pre-fab elements are quick to install – working hours at a construction site reduce to less than 10 % of the time needed compared to building a natural stone structure in-situ. Stonelement Oy sells stone elements not just to Finland but also to elsewhere in Europe and to Japan. The patented stone element system was developed as Finnish civil engineering and architectural design through decades of practical experience of natural stone. Stonelement Oy is a member of KIVI – Stone from Finland.

### Applications

Stonelement stone elements can be used in almost all conventional stone construction applications and also indoors and outside. Various stone wall and fence structures, walls, floors and walkways are built on-site as an element installation in a few days. Besides standard stone elements, products are tailor-made to designer and customer requirements. Stonelement Oy uses the latest ArchiCAD software in design to ensure flexible cooperation with design offices. Design details can be found in pdf format in the RT Product Information database. Objects can be downloaded free of charge from the GDL object library.

### STONE WALLS AND FENCES

#### Stonewall, Slate and Boulder stone walls and fences

##### Most common measurements supplied

- height 200...4000 mm (invisible pointing means the same product can also be used to build larger entities)
- length 500...4200 mm (there is no upper limit for the maximum length of an element wall, stone cladding can be carried out as a whole without visible pointing)
- thickness 100...450 mm
- in walls and fences the cap can be of natural stone, greenery, wood material or steel
- lighting, power sockets and e-vehicle charging points can be fitted into stone elements already at the production stage
- a stone wall can have a maximum thickness of up to 500...2400 mm with the help of a Stonelement stone element stone cap
- in L-element structures, the footing side can be freely chosen, the footing can also be a two-sided T-shaped footing
- can also be built without a footing, installation on-site on top of a footing or foundation

##### Properties

- shade: black, dark grey, light grey, white, red or brown
- Nordic weather conditions have been factored into the design; weather and frost resistance
- special exposure classes (e.g. seawater) designed to order

##### Materials

Natural Finnish stone and reinforced concrete. Stainless steel reinforcement where necessary in outdoor applications. Most common stone finishings:

- Dolerite, grey and black boulder stone
- Granite, sawn, polished and trimmed, also burnt and bush hammered
- Soapstone, sawn, Grafia and Nobile-treated and dressed
- Slate, natural edged, sawn and dressed
- Hornblende mica gneiss

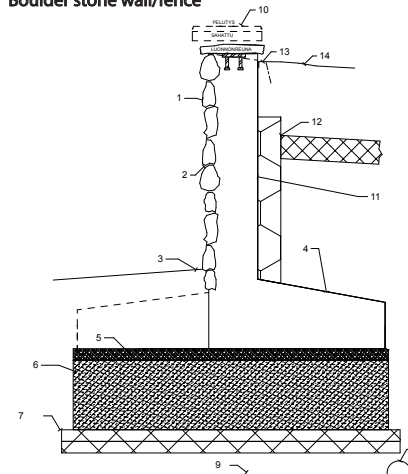


*Slate stone wall*



*Stonewall stone wall*

#### Boulder stone wall/fence



*Lifting a Boulder stone fence*

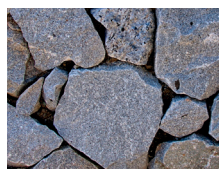


*Boulder stone wall*

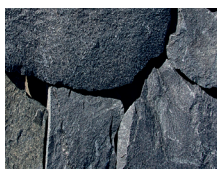
1. Stonelement Boulder stone element, coating paving Olivine dolerite, Hornblende or Granite
2. Deep pointing, impressive 3-D structure
3. Crushing or paving is limited to stone cladding (asphalting to stone cladding or smooth construction)
4. L-type footing structure, in-situ cast concrete footing not needed
5. Machine compacted crushed rock 0...8 mm or gravel 0...8 mm, layer thickness 20...50 mm
6. Machine compacted crushed rock 0...16 mm or gravel 0...32 mm, layer thickness 150...400 mm
7. Frost insulation, type recommendation for frost insulation XPS + 50 mm 8. Underdrainage if needed
9. Natural ground 10. Cap 11. Waterproofing 12. Frost insulation 13. Gravel 14. Grass, paving or tarmac



## Stone materials and masonry patterns



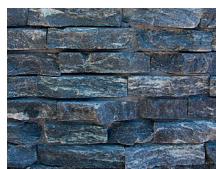
Dolerite grey, Boulder



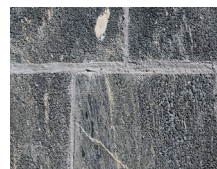
Hornblende mica gneiss



Soapstone graphite



Soapstone graphite, Stonewall



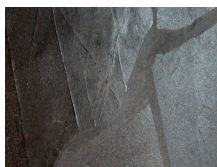
Soapstone rough



Soapstone graphite, thin pointing, Stonewall



Orivesi black slate, horizontal masonry



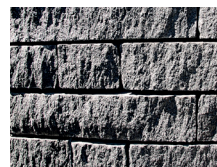
Orivesi black slate, dark grey pointing, Slate



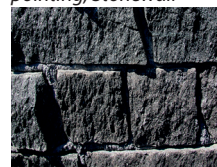
Orivesi black slate, light grey pointing, Slate



Orivesi dark grey slate



Varpaisjärvi black, deep pointing, Stonewall



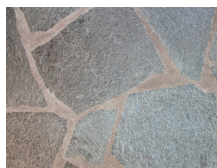
Varpaisjärvi large black



Lokka white slate, light pointing, Slate floor



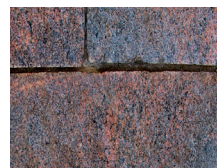
Lokka white slate, light pointing, Slate wall



Norwegian slate, light pointing, Slate



Lokka white slate, light pointing, Slate



Mäntsälä red-black, dark grey pointing



Colour concrete, dark grey

## OUTDOOR STEPS

Stonelement outdoor steps are made of genuine slate and can be made from unformatted slate or sawn slate. Stone steps can also be finished with granite or other natural stone. Stone steps made of slate elements have a low carbon footprint, long life and are fast and affordable to install. The rise and progression of outdoor steps can be made according to site requirements. Stone steps can be fitted with sunken lighting, de-icing cables or glycol circuits (de-icing).

## ACCESS RAMPS AND PATHS

Ramps and paths suited for accessible thoroughfares can be made of genuine slate, either unformatted or sawn. They can also be finished with granite or other natural stone. The high quality elements are made in controlled conditions to guarantee consistent quality. The ramps/paths can be fitted with sunken lighting, de-icing cables or pipework. Can be connected to a ground source heat or district heat system.

Standard ramp and path measurements (width x length x thickness):

- 1200 x 1200/2400/3000 x 100 mm
- 1400 x 2400/3000 x 100 mm

Besides standard models, access ramps and paths can also be made to order.



Stone masonry patterns

1. Brick



2. Norwegian pattern Stonewall



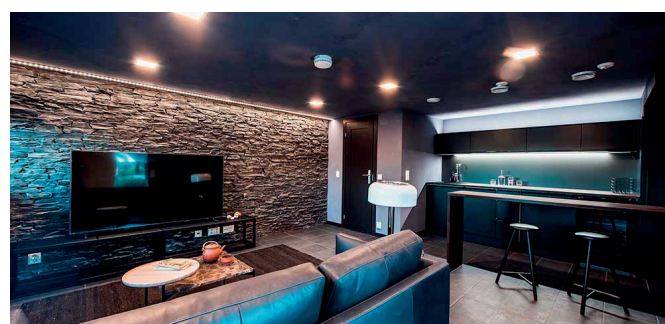
3. Traditional pattern Stonewall



4. Boulder pattern



5. Semi-overlapping



## WALL ELEMENTS

Stonelement stone wall elements are ideal for indoor and outdoor applications. Elements make it easy to install quality natural stone walls. A gravel or steady base is enough for the foundation. Stone wall elements are lifted into place and then adjusted to ensure they are vertically and horizontally straight. The location and fading of the pointing are designed based on the requirements of the site. Stone walls are made to order either according to architectural design or as a service provided by Stonelement which includes total design of the construction site. Designers are recommended to contact Stonelement Oy's technical advice service on +358 50 369 4581 already at an early drafting stage. Stonelement provides advice on how to implement foundation structures, foundations and support structures.

## MANUFACTURE, SALES AND ADVICE

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