



PRODUCT DATA SHEET

modern line 

ARCHITECTURAL
CONCRETE
SLABS

PRODUCT DATA SHEET - SLABS MADE OF ARCHITECTURAL CONCRETE

1. INTRODUCTION:

The Modern Line concrete products are a modern style range and a vanguard in spatial arrangement. Utilizing over 27 years of experience, we have created a series of concrete products that have been adapted to modern arrangements. Quality, technology and powerful minimalist design in the Scandinavian style - these are our priorities and challenges in terms of modern design. Modern Line is a solution for both public arcades, parking lots and courtyards, as well as private terraces and gardens.

2. MODERN LINE SLABS MADE OF ARCHITECTURAL CONCRETE - CHARACTERISTIC FEATURES:

2.1. **Composition and technology:** The use of specialized aggregate, selected concrete, alkali-resistant glass fibers and the most modern chemical admixtures allows to make products with a high complexity, including thin-walled, without the necessity to use additional traditional reinforcement.

2.2. **100% handmade:** products made of architectural concrete are entirely made in technology of manual casting.

2.3. **Satin texture:** Modern Line architectural concrete in natural version differs from other with a smooth and satin to the touch texture.

2.4. **Slim:** specially designed composition GRC (GFRC) of selected components makes it possible to minimize a thickness of component's walls and at the same time achieve much more spectacular design while maintaining perfect strength parameters.

3. MODERN LINE ARCHITECTURAL CONCRETE SLABS:

3.1. Physical properties:

PROPERTIES	LONGER	
	standard	typical values
ABSORPTIVITY	PN-EN 1339	class 2 „B”
FROST-RESISTANCE	PN-EN 1339	class 3 „D”
DIMENSIONAL DEVIATIONS	PN-EN 1339	Class 1 „N” thickness +/- 3 mm width, length +/- 5mm
BENDING STRENGTH	PN-EN 1339	class 1 „S”
WEAR RESISTANCE	PN-EN 1339	class 4 „I”
SLIP RESISTANCE	PN-EN 1339	sufficient

3.2. COLOR, TEXTURE AND PROPERTIES:

Concrete is a material the beauty of which is its rigidity, imperfection and uniqueness. Uniqueness of the material is determined by its nature - demanding and rough. You should consider the purchase of another material, if you expect a predictable and repeatable material.

On the surface of products made of architectural concrete, the streaks, color wear and pores/pitting (the so-called honeycombs) of a various number, regularity and intensity may occur. Between the individual elements, various differences in shadow may occur, and glass fibers and differences in the structure of aggregates used in production of a concrete may reflect on their surface – the listed features are a natural feature of a concrete, not its flaw, they give a unique appearance to the products and are not subject to complaint. After a time, the elements became even in terms of color and slightly tarnish, while the differences in shades, streaks and wears become less visible in half a year (they do not disappear completely). Surface of elements made of architectural concrete may change in terms of color tones and geometry due the influence of surrounding conditions (humidity, temperature, sunlight). On the surface of elements – also the impregnated ones - under the influence of humidity a white efflorescence may occur - it is a natural feature of each concrete and disappears automatically after a longer time. Due to the properties of natural raw materials used in production of architectural concrete (own color of a concrete, aggregates) it is recommended to order all elements planned to be used and possible spare elements, because it eliminates the possibility of occurrence of significant changes in their shades.

Any concrete processing and additional activities, such as polishing, grinding, applying varnishes, waxes, impregnates may have an impact on change of color and the nature of the panels surface.

NOTE: Plates made of architectural concrete are characterized by low absorptivity (high water tightness), however in the contact with water and other liquids they may absorb water, leading to a temporary or permanent change in color and geometry.

Texture characteristic:

a) **natural:** smooth in touch texture with moderate number of irregular pores (honeycombs)

NOTE: Due to the specific character of architectural concrete, the color and porosity of the product may vary in shade from the color of concrete samplers available as a marketing material

4. PRODUCT DATA SHEET – TECHNICAL DETAILS:

PRODUCT'S NAME	DIMENSIONS (CM)	WEIGHT (KG)	WALLS' THICKNESS (CM)	CONCRETE COLORS	USE	CONCRETE SURFACE
LONGER SLAB	length 20 width 160	40	5	white concrete steel carbon	Terraces, alleyways and garden paths, pavements, courtyards, passages (pedestrian traffic only).	natural

5. USE:

Architectural concrete is not resistant to scratches and impact, in particular with sharp objects.

5.1. **Use in winter:** Architectural concrete products are resistant to weather conditions, including temperatures below zero, which allows for using them outdoors all year round. Do not use de-icing agents and sharp tools for removing snow and ice from the architectural concrete.

6. MAINTENANCE AND CLEANING:

Any dirt should be removed on a regular basis, as leaving it can cause stains and discoloration. Do not use agents on the basis of acids, strong alkalis, aggressive cleaning agents or chemicals, which may react with concrete or impregnate, abrasives with abrasive properties (powders, creams) for cleaning of the concrete.

Recommended cleaning:

water only or water with addition of soft detergent with the use of a cloth;

Note: In exceptional cases for removal of heavy stains and dirt, one may use fine abrasive paper. A plate has to be cleaned gently, with circular motion, over the entire surface. One should remember that the paper rubs

also impregnation coating, therefore after cleaning, the plate has to be impregnated again. A slab cleaned using the abrasive paper may change its color shade and number of discolorations, it may also have scratches, therefore such method of cleaning is recommended as a last resort performed under the cleaner's responsibility. **The manufacturer shall not be responsible for results of such cleaning.**

7. IMPREGNATION:

Modern Line slabs are impregnated in-mass. A necessary condition for proper use is surface impregnation. Impregnate type should be selected depending on the expected visual effect. Prior to impregnation it is recommended to conduct trial application of a preparation in order to accept the visual effect (color, reflectivity). The used impregnates must be verified in terms of properties and the way of performance, so as to include all conditions of use. Surface impregnation should be performed prior to assembly of slabs, repeated after 6 months from application, and further repeated once a year. Recommended impregnates: SOPRO 704 and AKEMI ANTI-FLECK NANO. Slabs to be impregnated must be clean, dry, free from any materials that hinder the bonding. Impregnate should be applied with a soft brush or using a spray method, entirely saturating a surface, in a continuous manner and without breaks, so as to prevent overlapping of its layers. Impregnate should be used in line with detailed guidelines of the manufacturer. One should avoid the presence of water on slabs surface prior to their impregnation.

Note: After impregnation of slabs, the resistance to dirt and hydrophobic properties are determined by the properties of the used impregnate. Impregnation of slabs does not protect against stains caused by stagnant liquids, oils, acids, strong alkalia! The manufacturer of Moder Line slabs shall not be responsible for durability of impregnate, defects resulting from application of impregnate and does not grant a warranty for performance of impregnate, flaws of the product being a result of application of impregnate as well as durability of impregnate.

8. PACKAGING:

Longer slabs:

Concrete slabs are properly secured and transported on box pallets prepared specially for this purpose. Packed in the number of 20 pieces per a box pallet.

9. TRANSPORT AND COMMISSIONING:

9.1. Transport:

The Modern Line slabs are packed in box pallets of various sizes can be transported by cars. Extreme caution should be exercised during transport of the box pallets. Box pallets cannot be overturned, throw and piled, it is unacceptable to place other loads on a pallet. It is recommended to transport and unload pallets one at a time - so as not to damage the surface. Unloading and transport at the construction site should be performed using forklifts or lifting strings. The fork and lifting strings spacing should be adapted to the size of the pallet. In case of a pallet with dimensions of 210x110 cm, spacing of the fork and lifting strings cannot be smaller than 130 cm. Avoid pallet bending. Move slowly. **Note:** In case of delivery of products by general cargo transport/carrier company, the responsibility of the client is to check the condition of the content of delivery. In case of any damages, one should prepare a protocol in the presence of a driver/courier. This is a condition for submitting a complaint.

9.2. Acceptance:

After delivery of slabs to the target location, a quantitative acceptance should be immediately performed, and after removal of a film and unpacking - qualitative acceptance of products. The client should immediately report any irregularities to the manufacturer. After unpacking, one should verify dimensions of slabs. Slabs go through the process of control of dimensions in production plant and are in compliance with standards and product technical sheet. It should be remembered that linear deformations are natural in production process. **NOTE:** Deviations (dimensional, color) and deformations of panels not found and not notified to the manufacturer prior to assembly and within 7 days from delivery of the product resulting from improper storage or found after assembly are the result of mistakes in storage and assembly and shall not be considered as a product flaw.

10. STORAGE AND WAREHOUSING:

Immediately after delivery of slabs, one should remove the film and packaging elements from the pallet and allow for free access of air to both sides of the slab, so as to avoid retention of humidity on slabs. Store slabs only on flat surface, do not pile. Store slabs in vertical position, it is prohibited to place slabs in vertical and

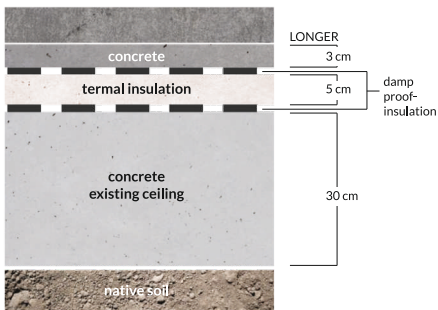
diagonal position. It is not allowed to exceed the number of pieces per pallet: 20 pieces in case of Longer slabs. Store slabs in dry and ventilated rooms, without the possibility of direct contact with water (both rainwater and standing water) and wet surfaces, at a temperature from +5 to + 25°C (protect against excessive sunlight). Do not allow for direct contact of a face surface with expanded polystyrene/extruded polystyrene/film and other materials impermeable to humidity. Secure against the risk of dirt, scratching and being hit by hard, heavy or sharp objects. Improper storage of elements can cause the occurrence of deformations, discolorations and efflorescences. The packaging does not secure the products in 100% against the impact of atmospheric conditions, therefore the products made of architectural concrete should not be stored outside in the packaging. One should avoid longer storage on a pallet (above 2 weeks).

11. INSTALLATION:

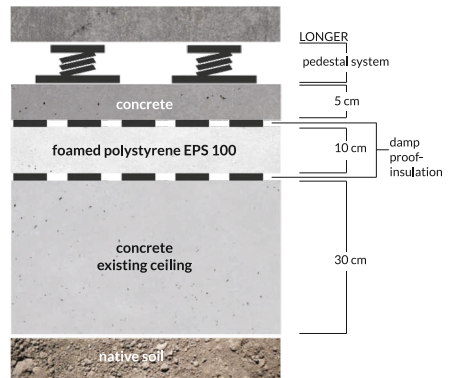
SCHEMATICS OF THE SURFACE STRUCTURE



terrace



terrace



12. STANDARDS AND CERTIFICATES:

Modern Line products are in compliance with standards:

Longer: PN-EN 1339:2005+AC:2007 Concrete paving slabs. Requirements and test methods.

