BAUTECH DST SYSTEM
Monolithic concrete floor system

DESCRIPTION
Monolithic industrial floors BAUTECH constitute a durable and particu-
larly economical solution of highest technical parameters and resistance
to abrasion. MULTITOP®, MULTITOP® ENDURO, BAUTOP® ENDURO, EXTRATOP®
ENDURO – dry shake toppings (DST) used for monolithic concrete floors
containing hard aggregates, high-performance cements with suitable
admixtures and pigments. Applied and floated on freshly-made concrete,
they create a coloured, marble-like, abrasion and dusting resistant,
smooth floor of increased resistance to the penetration with oils, grease
e tc.

USE
- New surface-hardened floors of high hardness and resistance to
abrasion and dusting in heavy traffic facilities – production
plants, warehouses with very intensive traffic, factories, logistic
centres as well as in food and pharmaceutical industry facilities
- Anti-electrostatic floors

PRODUCT CHARACTERISTICS
- Very high resistance to abrasion
- High dusting resistance
- Contains abrasion-resisting metallic aggregates
- High impact resistance
- Easy to clean
- Sealed and non-dusting surface
- Frost-resistant
- Wide range of colours

APPLICATION CONDITIONS
The temperature of the ambient and foundation during the works and for
the next 5 days should be between +5°C and +30°C. The surface made
should be protected from losing water too quickly as a result of, for
example, high temperatures, draught, sunlight operation etc. In order to
ensure high quality and uniform colour, all works should be performed
with suitable tools in an area protected from dust, EPS balls and similar
imperfections.

CONCRETE SLAB REINFORCED WITH BAUCON AND BAUMIX
FIBRES
BAUTECH DST SYSTEM floors are used on surfaces of freshly-made low-
shrinkage concrete:
- class C20/25 or higher
- w/c ratio ≤ 0,50
- amount of cement ≤ 350 kg/m³
- alkali contents in cement <0,5%
- cement CEM I, CEM II/A-S, CEM II/B-S or CEM III/A
- aggregate ≤ 16 mm
- contents of fraction ≤ 0.25 mm - min. 4%
- sand point about 35%
- total amount of cement and aggregate of fraction ≤0.25 mm – max.
  450 kg/m³
- consistence on the construction site: 53, Abrams cone slump about
  12 cm. Addition of steel fibres decreases the slump.
- An addition of steel fibres BAUMIX 60 is used in the amount of
  15-40 kg/m³ of concrete. With the amount of steel fibre 15 kg/m³
  of concrete, application of polypropylene fibre BAUCON in the
  amount of 0.6 kg/m² is recommended. In surfaces with low dos-
age of steel fibres, application of hybrid reinforcement accompa-
nied by observing the proper formula of concrete, limits the cre-
tion of contraction cracks in the largest degree possible. This is
extraordinarily important for monolithic surfaces finished with an
abrasion-resistant layer in the dry shake topping technique. BAUMIX 60 steel fibres can be placed in the aggregate bunker
and dosed by weight. If no free bunker is available, add BAUMIX
60 straight into the concrete mixer, pouring

it out of the packaging. Steel fibres are added always after the last
fraction of aggregate, before cement, water and (super) plasticizer.
If an anti-electrostatic floor is being made, the concrete must have an
addition of BAUMIX steel fibres in the amount of no less than 20
kg/m², also a discharge of electrical charges must be performed. In
case of hybrid reinforcement, BAUCON polypropylene fibres are
added after steel fibres. Addition of BAUMIX polypropylene fibres to
a freshly-made concrete mixture acts as micro-reinforcement which
decreases the plastic shrinkage and limiting the creation of shrinkage
cracks in set concrete. BAUCON polypropylene fibres are added to
concrete in the amount of 0.6 kg/m² and to mortars – 0.9 kg/m². The
difference in dosage results from higher contents of cement in mort-
tars.

CAUTION! Do not add any volatile ashes, as these tend to accumulate in
the top layer of the slab, which may cause the dusting of the floor or
detachments of the hardener. It is forbidden to add water to concrete
mixture in order to increase its workability. This causes a significant loss
of the strength of the concrete and a clear increase of the chemical
and physical shrinkage, leading to the creation of uncontrolled scratches
and cracks.
The concrete must be properly compacted.

MAKING OF FLOOR WITH THE “DRY TO WET” METHOD
Before a surface hardener is used, the concrete must achieve proper
hardness. The setting time of concrete depends on the temperature,
relative humidity of the air etc. The surface of the concrete must not get
too hard, therefore its condition must be frequently checked. As a result,
selection of the optimal moment to begin application of the surface
hardener will be possible. The works may be commenced when the
imprints of feet on the concrete are not deeper than 3-4 mm. Remove
excess of cement grout from the surface of the concrete with rubber
squeegees and refresh the surface with a disk. Then spread about 2.0
kg/m² of Bautop Enduro hardening agent. Perform rough troweling of
the surface with a disc, spread the hardener again, in the amount of about
2.0 kg/m² and trowel the whole of it once more with a disc. The amount
of spreaded hardener is about 4.0 kg/m² ± 10%. Continuously control
the consumption, as careless spreading of the hardener may decrease the
quality of the floor. Perform the subsequent stages of troweling with
blades set gradually at increasing angles.

CURING
Immediately after the troweling is completed, the whole surface
should be treated with a selected preparation in order to prevent too
quick loss of water:
BAUSEAL® EKO
A water-diluted sealer for industrial floors applied with the spraying
method, with a low-pressure sprayer. Sealer should be applied once,
with a thin layer, paying attention that no puddles are left.
Efficiency: 1 litre per 8-12 m²

BAUSEAL® ENDURO
A solvent-based sealer for industrial floors applied on freshly made
concrete floor, immediately after the last mechanical troweling is
done. Sealer should be applied with the spraying method, with a
low-pressure sprayer. Sealer should be applied once, with a thin
layer, paying attention that no puddles are left.
Efficiency: 1 litre per 8-10 m²
Silicate and polymer based agent for the maintenance, strengthening and sealing of concrete surfaces. BAUTECH FORMULA should be applied evenly on the surface with the spraying method in the amount of 0.1 - 0.2 l/m² until complete coverage is obtained. The surface should stay wet for 15 - 20 minutes. An additional amount of the agent should be applied in places where it dries up faster – a microfiber mop helps distribute the agent evenly and maintain the surface wet for the necessary time.

Efficiency: 1 litre per 4-10 m²

NANOSEAL®

Lithium and polymer based agent for the maintenance, strengthening and sealing of concrete surfaces. Thanks to the penetration and hardening of concrete in molecular structure, it allows to obtain a highly resistant cement matrix of extreme physical and chemical properties. Additional modification with a specially selected polymer binding agent provides the maximum level of sealing the concrete by bonding those ingredients of the concrete matrix that are devoid of free calcium compounds.

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Efficiency: 1 litre per 4-10 m²

JOINTS

Expansion joints should be cut 24-72 hours after troweling works on the surface of the floor are finished. Expansion and contraction joints should be enlarged to the desired width and depth 28 days after the concrete floor is made. The edges of the widened joints should be bevelled with an angle grinder. Thoroughly remove dust from the joints. The surface must be clean, dry, uniform, free from grease, dust and loose particles. Any paint, cement grout and particles loosely bound with the surface must be unconditionally removed. After cleaning the joints with a vacuum cleaner, introduce on the proper depth cord BAUCORD of diameter about 25% larger than the width of the joint. BAUCORD is elastic and chemically resistant material from expanded polyethylene with closed pores. It constitutes an integral element of the joint sealant system. Ground the bevelled surfaces and joint walls with BAUFLEX PRIMER and leave for about 60 minutes, when the primer becomes sticky. BAUFLEX PRIMER is a ready-to-use polyurethane grounding compound which increases adhesion of sealants to concrete. After preparing joints in the above-described manner, application of BAUFLEX 35 – a single-component flexible sealant for industrial floors – may be commenced. The foundation and ambient temperature should be +10 °C +25°C, at the relative humidity of the air not exceeding 80% and the humidity of the joint walls below 4%. The joint should be filled with the sealant pressed out of the pistol until its level is equal with that of the floor Remove the excessive amounts of the mass. During application pay attention that the mass has full contact with the joint walls. Avoid closing air bubbles in the mass. If protection tapes were used at the edges, remove them while the mass is still soft. Rooms where the works are performed should be separated and protected from the entry of casual visitors and keep a protection zone regarding the use of open fire, welding works in particular.

SAFETY PRECAUTION, STORAGE, TECHNICAL DATA

Safety precaution, storage, transport conditions and specifications for each product are listed in the Product Technical Data Sheets.

MISCELLANEOUS INFORMATION

- All the information herein refers to products stored and used according to our recommendations, has been presented in good faith and takes into account the current state of knowledge and experience of BAUTECH. You are obliged to use the product in accordance with its intended purpose and BAUTECH’s recommendations. All the technical information provided is based on laboratory tests and trials. Out-of-laboratory tests may give different results due to the conditions, location, manner of application and other circumstances that are out of BAUTECH’s control. Any different recommendations issued by our employees must be made in writing; otherwise, they shall be deemed null and void. These instructions replace all the previous ones and make them void.
- The surface of the made floor may have differences in the shade and appearance, depending on the conditions and manner of performing works, drying conditions etc. This is not a defect of the product and does not influence the technical parameters and functional properties of the floor. Colour diversification of the floor may also result from non-homogenous concrete foundation.
- If the relative humidity of the air is below 40%, blooming may appear on the surface. If the relative humidity of the air exceeds 80%, the setting process of the concrete may be extended.
- Hair-like crack may appear on the surface of floor troweled mechanically. This is a typical phenomenon on concrete floors with no influence on the functional properties of the floor.