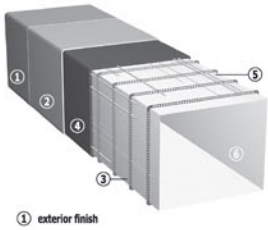
bx042

This submitted proposal is a research of **latent capacities** of concrete, a constructive **critic of the established architectural process** as well as a reflection on current living and working spaces ...



1. **exterior finish**
2. **textile reinforced concrete core**
3. **stabilizing metal ring**
4. **thermal insulation**
5. **sanitary and electrical plug-ins**
6. **interior finish**

There are famous examples of prefabrication attempts in architecture through the twentieth century.
Nevertheless, architecture has not yet reached the age of consistent industrialization at the present (contrary to the automobile industry or well-known furniture stores for instance).

Even if several construction elements have been standardized during the last century, recent investigations show how little this domain has been exploit until today.

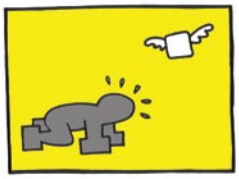
Particularly, the current habits in concrete construction are far away from advanced industrialization.

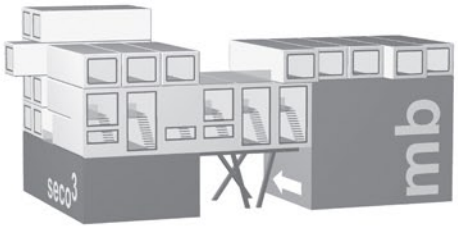
Similar to the reputation of prefabrication and in spite of numerous examples of intelligent and inspiring architecture made of concrete, the widespread image of concrete as an unpersonal standardized and unnoble muddy building material endures.

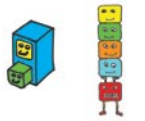
Both the fear of prefabrication and the deceiving image of concrete impede the development of latent possibilities.

... **bx** doesn't pretend in the first place to rehabilitate the image of concrete or prefabrication but intends to broaden the application field of this manifold material and to offer a counterproposal to current construction habits.

con-TEXT







the genesis of **leightweight construction made of concrete**

or : what can we do with the cement mixers?

Traditionaly, concrete is used for massive construction.
The protection of the steel reinforcement against corrosion and high temperatures in case of fire disaster as well as the traditional construction techniques (both cast on the site and prefabrication) condemn concrete to massive construction.
But lightweight constructions made of concrete are going to be possible in the near future using textile reinforcement.

This composite material is a further development of short fibre reinforced concrete and inspired by composite materials with plastic matrices.
Textile reinforced concrete is composed of a fine concrete matrix and an alkali resistant glass or carbon fibre textile reinforcement.

At the present time, intensive research on textile reinforced concrete are carried out at the RWTH Aachen and the TU Dresden. Contrary to steel reinforced concrete, there is no need for thick concrete coating of the reinforcement to protect it against corrosion and the thickness of elements can therefore be reduced.

Current habits in the field of concrete construction are not adapted to this new material.
The expected capacities of textile reinforced concrete incite to rethink (for some specific applications) the scale of prefabrication of concrete construction elements.

bx is a prototype for a prefabricated living and working unit and an example of how this new material could turn upside down the use of concrete and the related construction habits in the near future.

The dimensions allow a transport of the unit by a flat-bed-truck.
The unit is composed of a 4cm thick, textile reinforced concrete core, of regularly spaced out stabilizing rings, optional thermal insulation, electric and sanitary plug-ins, an interior and an optional exterior finish as well as preinserted furniture corresponding to the spatial characteristic of the unit and the final activities.

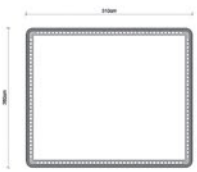
bx is not only a construction element like prefabricated floor slabs or standardized formwork systems for instance, but is already an architectural statement. It questiones the architectural tradition of the "one of a kind" and in the case of a minimal living cell, it proposes an alternative to the existing forms of urban living.

The prefabricated units can be used for new construction or for the expansion of existing buildings and they are either ready-made cells or construction components.
The units are fitted into local facilities which allow to take into account specific conditions. Up to 5 or 6 levels the units can be simply stucked up. For larger applications they are slipped into a primary structure.

The unit does not pretend to be suited for each kind of need and all circumstances but is conceived as a minimal living or working cell or as a component of office or hotel buildings.

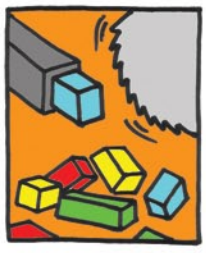
But what the hell should we do with all the cement mixers - soon useless because of the unavoidable changes in the domain of concrete construction? (1)
Under the management of Professor G. Dacier, large-scaled and intensive researchs have been carried out at the University of Liège since January to avoid the imminent disaster.
Potential applications have been published last week. They propose for instance to reuse the cement mixers as winter shelters for birds or to use them as enormous buoys.
Last but not least two particulary unusual propositions : the cement mixers could be used to distribute fresh soup in crisis areas or could be transformed into training equipment for astronauts.
Wait and see ...

(1) : the following lines should be understood as a little distraction for the reader ...



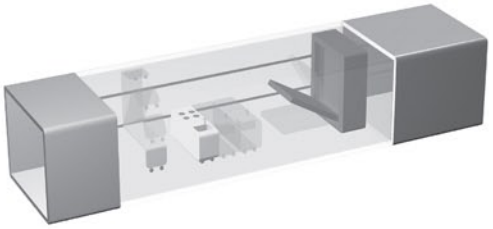
manufacturing method of the textile reinforced concrete core

The textile reinforcement is unrolled and positioned between the exterior and interior mould where the concrete is injected.
The fine concrete used for textile reinforcement acquires rapidly a form-stable damped state which allows to diminish considerably the duration of formwork between the two moulds.



datasheet

name :	bx
description :	prefabricated, transportable, reusable living and working unit
lenght :	variable (up to 11m)
exterior section :	3.1 x 2.6m
interior section :	2.82 x 2.32m
weight :	1300kg/m
scale of applications :	S to XL
preinserted equipment :	specific adapted funiture, sanitary and electrical plug-ins
available types :	nomadic bx ready-made bx component bx



INTERVIEW

Luc Verbruggen meets Hugo Le Couturier in his **bx** - for the moment in Rotterdam ...

Luc Verbruggen :
Good afternoon, Mr Le Couturier and thank you for taking some time for our interview ...

Hugo Le Couturier :
Oh, it's a pleasure for me.

Luc Verbruggen :
Could we say that you are a kind of nomadic person?

Hugo Le Couturier :
(smiles) Yes, I simply can't stand constraint.

Luc Verbruggen :
And that's why you bought your bx ...

Hugo Le Couturier :
Right. My bx gives me the possiblity of a flexible life. I can move around, from one city to another, whenever I want - combining the advantages of a hotel and an apartment.

Luc Verbruggen :
And each time you move to another place, you take your bx with you ...

Hugo Le Couturier :
Yes, but there are two possibilities. Either you possess your own bx like I do and your bx moves with you. Or you rent a bx in the city you're going to. In this case, you can create your individual bx by chosing your materials, your colors, your funiture etc.

Luc Verbruggen :
And what are your reasons for moving so regularly?

Hugo Le Couturier :
There are different ones. Sometimes, I have to move because of my job, but sometimes I simply feel like discovering other places.

Luc Verbruggen :
And wich places can you go to?

Hugo Le Couturier :
Until now, I only went to cities where I could use existing primary structures, kinds of scaffolds with docks to put the bx in. As more and more cities are building that structures, I almost have unlimited possibilities. But you even don't need those structures ...

Luc Verbruggen :
What are the advantages of those so called primary structures?

Hugo Le Couturier :
The user doesn't have to organise his current, his water etc.
But the owner of the structure has his advantages, too. First of all, they are not expensive - or can be - and it is much cheaper to maintain unused docks than it is the case for unused rooms in apartment buildings.
That last point also makes it easier for the user who doesn't have to wait a long time for free places in that structures.

Luc Verbruggen :
And what about the removal itself? Are the lorries directly available?

Hugo Le Couturier :
It only takes some days, perhaps a week.

Luc Verbruggen :
And the costs?

Hugo Le Couturier :
As we can take advantage of the already existing transport network of other products, it's not expensive. And beside that, the bx itself is already quiet cheap.

Luc Verbruggen :
One last question : don't you feel cramped in your bx?

Hugo Le Couturier :
Not at all! For people like me, the dining room is most of the time a restaurant, my TV is the local cinema and when I want to see my friends, I go to a bar. Apparently, everyone wants to build his own little Versaille today. But that injures social contact. I want to meet people, I want to see the world outside and than come back in my little world, in my little bx ...

Luc Verbruggen :
That sounds good, Mr Le Couturier. I'll leave you alone in your world, then. Thank you very much!

Hugo Le Couturier :
You're welcome.