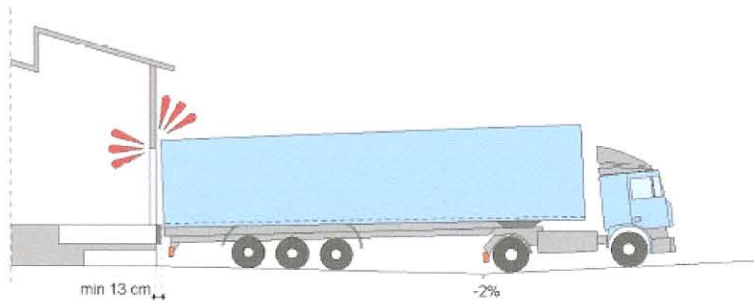


## ALL ABOUT BUMPERS – 01.06

**Bumpers** are an often underestimated argument which sometimes leads to big damages: they signal the driver, sitting in the cabin at 15 m distance that the vehicle has docked. They must damp the small bumps at reduced speed, in order not to cause damages to the vehicle, but must also keep the vehicle at a distance of at least 13 cm from the wall, otherwise the roof of the semi-trailer will bump against the building damaging both the wall and the truck, in particular if provided with the back tile, which avoids rain water to enter the trailer.



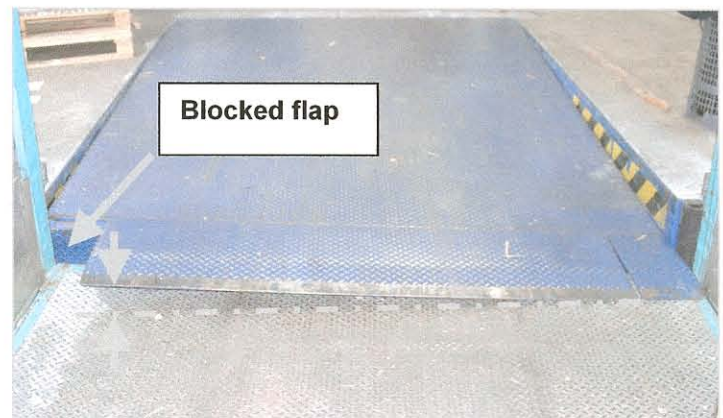
*The bumpers must be at least 13 cm thick to avoid damages at the building wall, as clearly visible in the photograph on the right.*

The research of lower prices lead to the acceptance of insubstantial hollow rubber pieces as bumpers inserted in an insubstantial steel plate, whose life is short and requires continuous substitutions and maintenance. This insubstantiality leads to damages at the lip of the dock leveller and the side flaps.



An insubstantial bumper allows the vehicle to hit the lip and damage the side flaps that stop the lowering of the dock leveller for the connection of lower than the dock vehicles.

The result is the extreme danger of an overhang of the wrongly connected lip. The risk of being hurt is high and the fork lift truck wheels are surely damaged



The right solution are full rubber bumpers, damping, that can keep the vehicle at least 13 cm from the wall, but some other factors are still missing: a too small surface of contact with the vehicle causes damages and the bumper gets soon broken.

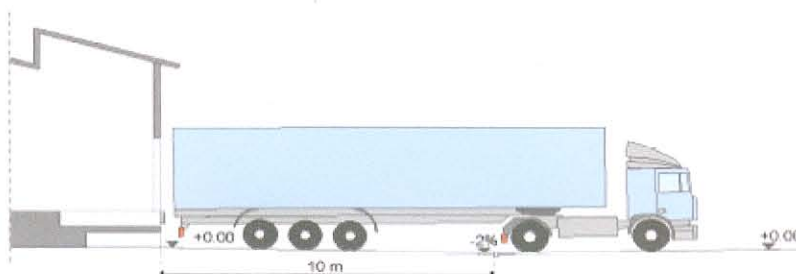
The right dimensions are 15 cm width, 40 cm height and min. 13 cm thickness, better if consisting for a half of a steel support reducing the flexibility of a too thick rubber and allows for an easy replacement also of the fixing bolts and nuts that many bumpers do not allow.

The *CAMPISA* superbumpers are the perfect solution.



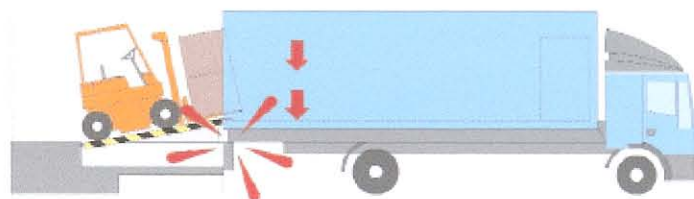
Other factors have an important influence on use and durability of the bumpers. After the docking, the vehicle is stopped and the weight burdens according to the inclination of the yard: with a 2% outwards down inclination the vehicle remains at 2-5 cm from the bumpers, during loading operations it lifts and lowers without even touching the bumper, which lasts forever. With an outwards up inclination the vehicle presses totally on the bumpers, which will be totally mangled in short, during loading.

*An inclination of 2% outwards down allows the vehicle under load to work at a distance of 2-5 cm from the bumpers that this way remain always perfect*



The height of the dock from ground level and the height of the docking vehicles are very important. The right height of a dock is 105-110 cm because it is always better to work with the dock leveller in positive lift. But there are still many high vehicles and when the worker allow them to stop above the bumpers and the vehicle lowers under load, the bumpers are uprooted.

*Loading vehicles when they lean on the bumpers is the cause of their uprooting when the vehicle lowers under load with all the weight.*



Everybody is searching solutions to avoid this uprooting. There are bumpers sliding up-down with recalling springs, but they stick out from the dock on the sides of the dock leveller and workers bump on them with the goods and damage them.

*The up-down floating bumpers seem a good solution, but very often they are the reason of damages due to collision, as they protrude above the pavement level.*



The solution is to let the vehicle forward till it is out of the bumpers. It would be enough to instruct the workers, but sometimes the dock levellers are used by drivers who often change, hence the instruction is impossible. The solution, although very expensive, is represented by the steel leaf spring bumpers that can be lifted and lowered hydraulically. One leaf spring bumper is enough for each loading bay, the other one can be normal. Once the vehicle has docked the bumper can be lowered hydraulically to avoid damages at the goods. Obviously it should always stay in upper position to stop next vehicle.

*The leaf spring bumpers with hydraulic lifting allow to stop the docking vehicle, and can be hydraulically lowered in order not to collide with the goods*



The "mega" bumpers 25 cm width, 45cm height and 10 cm thickness are very modern as they provide a sense of might and solidity.

Their choice is more architectonic than functional as they extend at the sides over the shape of the vehicle thus the last 10 cm on the left and on the right are not used.



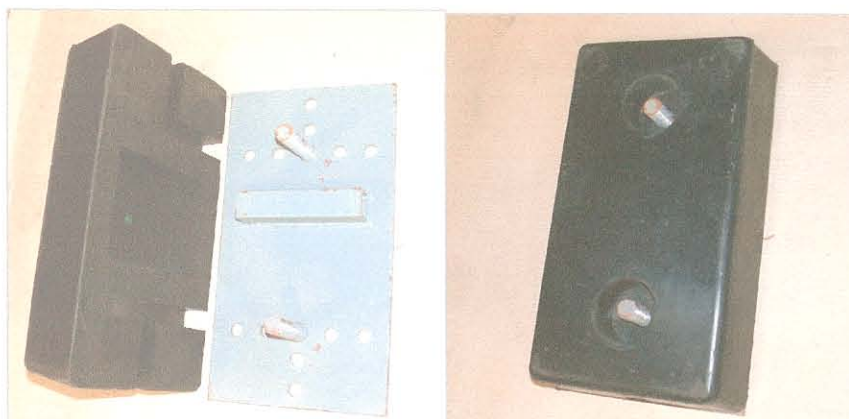
Also MEGA bumpers must have a steel support to reach the minimum thickness of 13 cm. These too can be uprooted by the overlapped vehicle lowering under load.

A solution is a frontal steel plate, surmounting the bumper till the steel support. It is surely the maximum of strength, but the damping capacity of the rubber is null.



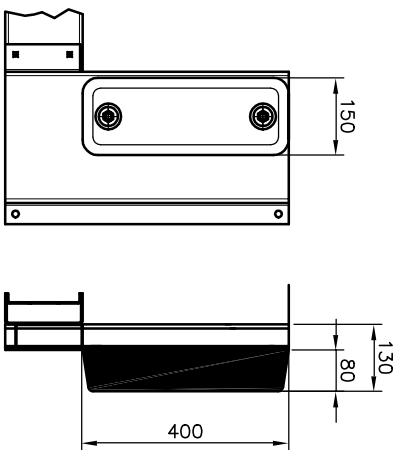
The ideal compromise can be reached with the CAMPISA SUPERBUMPERS 15 cm width, 40 cm height, 13 cm thickness (including the steel support) with bolts and nuts to be easily replaced, or with MEGA bumpers, resistant to the vertical pressure of the overhanging vehicles. In order to reach this, it has been recently patented a system with rubber bumper with a hollow in the back where a steel support protruding from the bumper support plate enters.

When the bumper is mounted, the internal support holds the weight of the vehicle. This solution should not be abused, as there's always the friction of the leaving vehicle. Steel plates can always be mounted on this system.

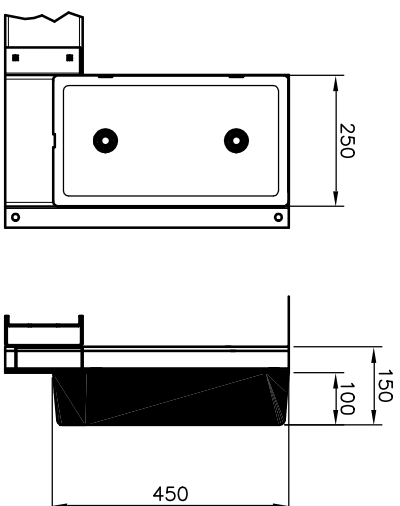


# BUMPERS INSTALLATION ON PREFABRICATED SYSTEM

## SUPER BUMPERS

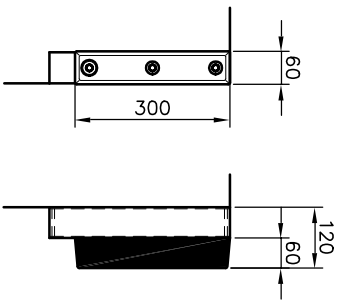


## MEGA BUMPERS

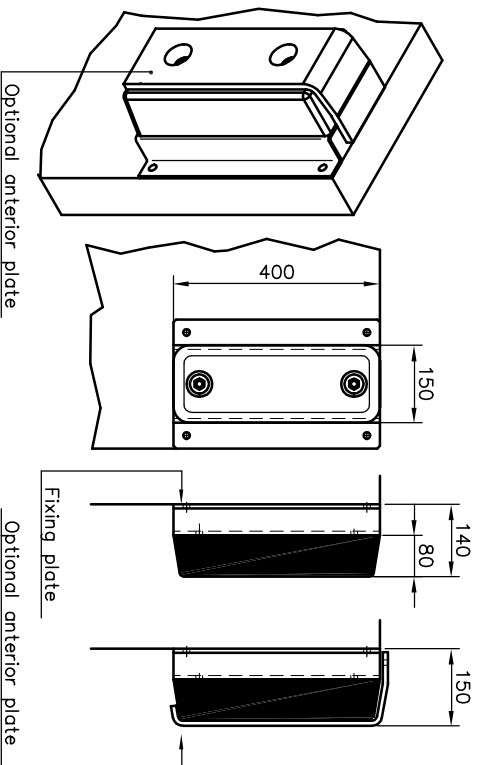


# BUMPERS INSTALLATION ON SUPPORT

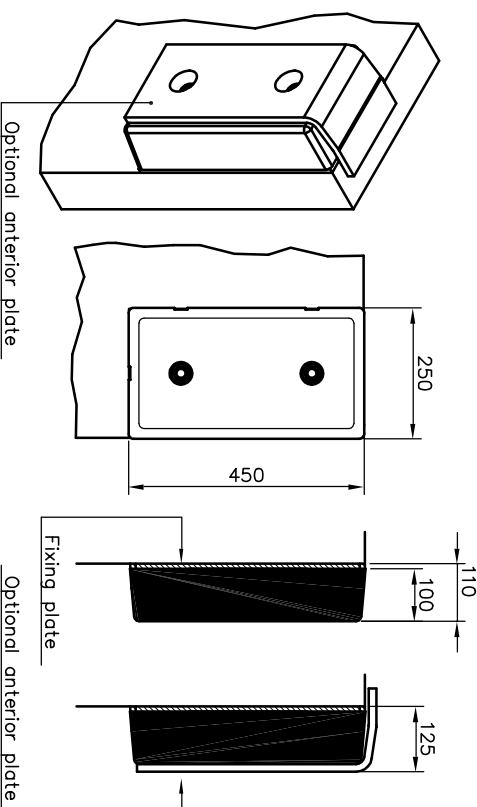
## BUMPERS



## SUPER BUMPERS



## MEGA BUMPERS



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Rev. 1 del 22/10/02

Descrizione / Description  
**Bumpers dimensions  
and installation  
Instruction**

Dis. N° / Dwg N°  
IR000-223

Dis. CAD / CAD Dwg  
IR000-223

Gruppo / Group  
Instruction

Formato  
A3

Scale  
1:10

Rev.  
2

Date  
09/11/06

Appr. d  
S.G.