

KOMO® Attestation-with-product-certification K66468-3



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Valid until	Indefinite	D.d.	2016-07-01
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Pressed concrete stacking blocks for use in wall constructions

N.V. Betonagglomeraten Gubbels

STATEMENT BY KIWA

This certificate with product certification has been issued on the basis of BRL 2815 "Concrete stacking blocks for use in wall constructions" dated 5 December 2024, in accordance with the Kiwa Certification Regulations.

The quality system and product characteristics are checked periodically. The performance of concrete stacking blocks in relation to the "Besluit Bouwwerken Leefomgeving" (Bbl) and the principles for assessment are checked periodically. Based on this, Kiwa declares that there is justified confidence that:

- The product supplied by the certificate holder upon delivery complies with:
 - The technical specification set out in this attestation-with-product-certificate;
 - The product requirements laid down in the BRL, provided that the product bears the KOMO® mark in the manner indicated in this attestation-with-product-certificate.
- The wall constructions assembled with this product deliver the performance as stated in this attestation-with-product-certificate, provided that:
 - It complies with the technical specification and conditions of application set out in this attestation-with-product-certificate;
 - The manufacture of the walls is carried out in accordance with the provisions and processing methods determined in this attestation-with-product-certificate.

The essential characteristics, as laid down in the applicable Harmonised European Product Standard and the associated quality system control of these characteristics, do not form part of this declaration.

Within the framework of this KOMO quality declaration, no inspection is carried out on the production of the other components of the wall construction, nor on the assembly of the wall constructions.

Wim van Loon
Managing Director Netherlands

This certificate is listed on the websites of the KOMO Foundation: www.komo.nl and www.komo-online.nl.
Advice: consult www.kiwa.com to check whether this certificate is valid.

Kiwa Netherlands B.V.
Sir Winston Churchilllaan 273
PO Box 70 NL-2280 AB
RIJSWIJK Tel. +31 88 998 44 00
NL.Kiwa.info@Kiwa.com
www.kiwa.com

Certificate holder
N.V. Betonagglomeraten Gubbels
Steenweg naar As 4
3630 MAASMECHELEN Tel.
+3289657885 info@masterbloc.be
www.masterbloc.be



Reviewed is:

- Quality system
- Product
- One-off performance product in the application

Periodic check

Pressed concrete stacking blocks for use in wall constructions

BESLUIT BOUWWERKEN LEEFOMGEVING (BBL)

Paragraph Bbl No. and title	Limit value/ Determination method	Performance according to quality declaration	Remarks regarding application
4.2.1 Structural safety	Not exceeding an ultimate limit state determined in accordance with NEN-EN 1990.		The certified characteristic values according to BRL 2815 are used for the design of the wall construction.
4.2.2 Structural safety in case of fire	Duration of fire resistance with respect to failure determined according to NEN-EN 1992-1-2.		To be determined per project
4.2.7 Limitation of the development of fire and smoke	(Non)flammability determined according to NEN-EN 13501-1	Wall constructions are non-combustible or comply with fire class A1 according to NEN-EN 13501-1.	

TECHNICAL SPECIFICATION

Subject

Dry-stacked concrete stacking blocks used in wall constructions on a flat foundation.

Pressed concrete stacking blocks (Masterbloc®)

The concrete stacking blocks are manufactured from concrete in accordance with NEN-EN 206, NEN 8005, and NEN-EN 13670. Strength class C30/37. Upon delivery, the concrete compressive strength is at least 2/3 of the characteristic cube compressive strength.

The concrete stacking blocks consist of (un)reinforced concrete.

The shape and dimensions of the blocks are shown below and on the drawing sheets accompanying this attestation-with-product-certificate.

BLOCK	Length	Width	Height
	150cm	75cm	40cm
	120cm	60cm	40cm
	75cm	75cm	40cm
	60cm	60cm	40cm
	112,5cm	75cm	40cm
	90cm	60cm	40cm
	37,5cm	75cm	40cm
	30cm	60cm	40cm

The maximum dimensional tolerances for the stacking blocks comply with 5.1.1 and for the stud and counter-stud with 5.1.2 of BRL 2815.

Wall construction

The foundation for the wall construction and any anchoring thereto are not part of this KOMO certificate with product.

The wall structures covered by this KOMO attestation-with-product-certificate do not form part of a building, but are part of, among other things, retaining walls, trench silos, and loading and unloading docks.

The wall structure is stacked according to the stacking method in Appendix C of BRL 2815.



Pressed concrete stacking blocks for use in wall constructions

Markings

The concrete stacking blocks are marked with the KOMO® mark.
The implementation of the brand is as follows:

Mandatory indications on the mark:

- manufacturer's name and/or registered trademark;
- production date or -code;
- KOMO® logo and certificate number.



K66468

The brand and the production date are placed on the product.

PROCESSING

The producer has agreed with Kiwa to ensure the maintenance of the product's quality, from the final inspection of the product at the factory until the moment and place of delivery.

The producer ensures that all documentation relevant to the customer, such as processing and usage guidelines, product certificates, warnings, and the like, is available to the customer at the time of delivery.

The producer has committed itself to Kiwa to ensure the correct content of this documentation.

PERFORMANCE

Structural safety (Bbl 4.2.1)

For each project, a calculation of the wall structure must be prepared by or on behalf of the certificate holder to demonstrate that, during the design service life referred to in NEN-EN 1990, the ultimate limit state is not exceeded by the fundamental and extraordinary load combinations as referred to in NEN-EN 1990.

Explanation

The fundamental load combinations are based on the nominal values of the wall constructed from stacking blocks. Load cases: self-weight, wind load, whether or not combined with load of stored material.

In addition, the wall must be checked for possible load from (commercial) vehicles when the storage area is empty.

For the extraordinary load combinations, the assumption is made of a wall constructed from stacking blocks with the largest possible dimensional tolerances of the stacking blocks (= maximum wall inclination).

Load cases: self-weight, wind load, whether or not combined with the load from stored material. Additionally, additional loading caused by a shovel or other commercial vehicles (if used during filling) must be taken into consideration.

Non-exceedance of an ultimate limit state shall be determined in accordance with NEN-EN 1992-1-1, NEN-EN 1996-1-1 and/or NEN-EN 1990, Annex D.

When applying NEN-EN 1990, Article 5.48 of the Environmental Regulations applies.

When determining the ultimate limit states, use is made of the characteristic values for the shear strength between blocks (f_{vk0}), the shear strength between block and foundation ($f_{vk0,fund}$), the internal friction angle (α_k), and the flexural strength perpendicular to the bed joint (f_{xk2}) in accordance with NEN-EN 1996-1-1, Articles 3.6.2 and 3.6.3, determined in accordance with 3.1.1 of BRL 2815 and as shown below:

$$f_{vk0} = 0,11 \text{ N/mm}^2$$

$$\alpha_k = 0,042$$

$$f_{vk0,fund} = 0,0026 \text{ N/mm}^2$$

$$\alpha_{k,fund} = 0,0018$$

$$f_{xk2} = 0,36 \text{ N/mm}^2$$

In the serviceability limit state, only the friction resistance of the block is taken into account, based on the assumption that there is clearance between the studs and counter-studs and that no displacement occurs in this state.

The characteristic flexural tensile strength (bending with cracking in the lintel joints or tipping moment (f_{xk1}) according to NEN-EN 1996-1-1, Article 3.6.3) is equal to '0'.

The tipping point in the ultimate limit state is determined using the centre of gravity of the concrete compression diagram.



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Structural safety in case of fire (Bbl 4.2.2)

If applicable, the duration of the fire resistance of the wall construction must be determined at project level in accordance with NEN-EN 1992-1-2.

Limitation of the development of fire and smoke (Bbl 4.2.7)

Wall constructions comply with fire class A1 according to NEN-EN 13501-1.

APPLICATION CONDITIONS

The foundation must comply with NEN-EN 1992-1-1 and NEN-EN 1997-1, whereby the additional deflection of the foundation may not exceed $0.002 \times l_{rep}$ or 15 mm, where l_{rep} is the length of the span and, in the case of cantilevers, twice the length of the cantilever.

For the wall construction, the blocks are stacked according to the stacking methods in Appendix C of BRL 2815. The wall construction is subsequently considered a solid wall construction for the design.

INSTRUCTIONS FOR THE BUYER

Upon delivery of the products listed under “technical specification”, inspect whether:

- what was agreed has been delivered;
- the brand and the manner of branding are correct;
- the products show no visible defects as a result of transport and the like.

Inspect the products listed under “processing” upon delivery to determine whether they meet the specifications

mentioned therein. If you proceed to rejection based on the foregoing, please contact:

- N.V. Betonagglomeraten Gubbels
- if needed with:
- Kiwa Netherlands B.V.

Carry out the storage, transport and processing in accordance with the provisions referred to under “processing”.

Observe the conditions of application mentioned under “performance”.

Within the framework of this quality declaration, no verification of the accuracy of the performance of the essential characteristics of the concrete stacking blocks takes place.

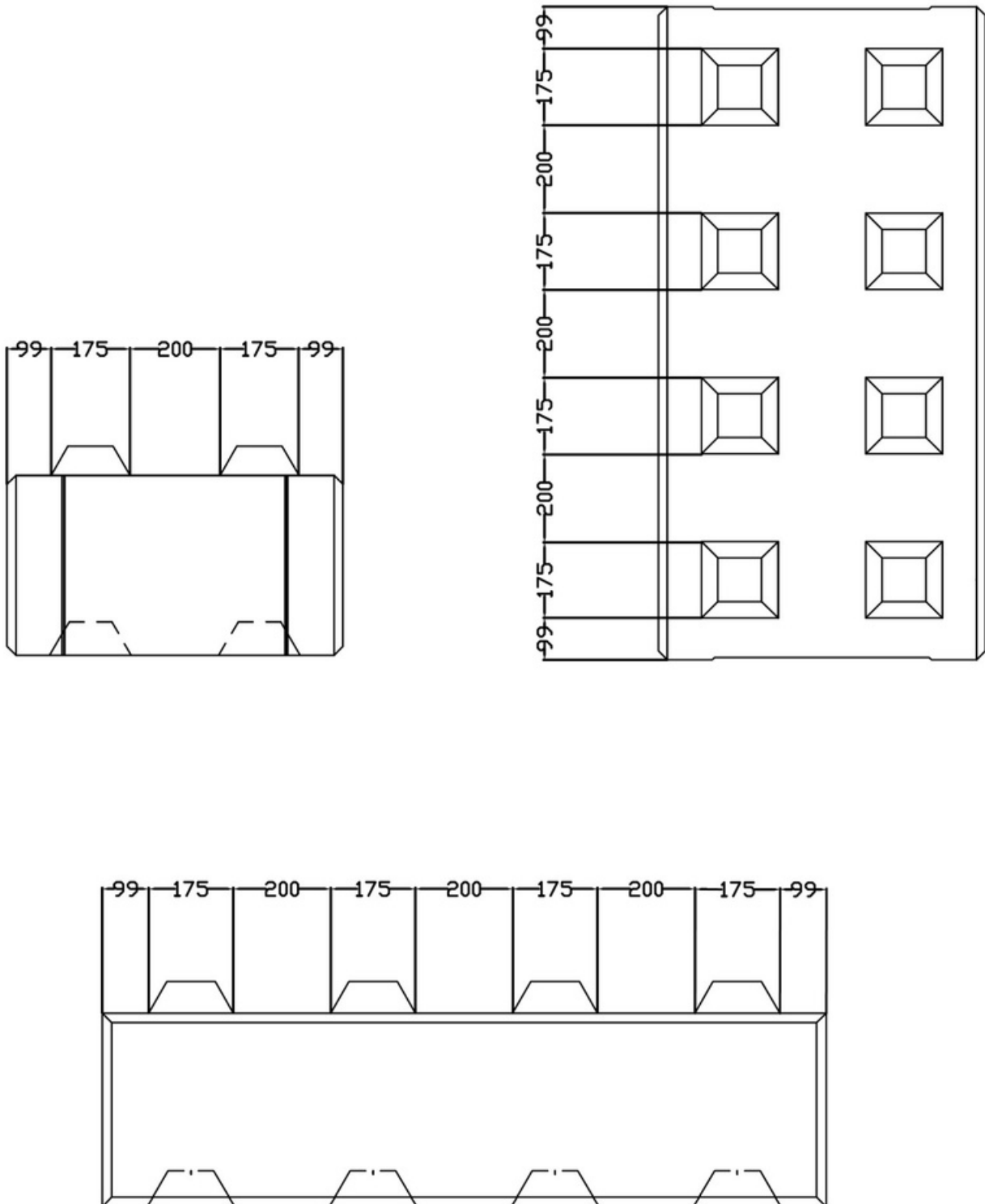
The statements in this quality declaration may not be used as a substitute for the CE marking and/or the associated mandatory Declaration of Performance.



Pressed concrete stacking blocks for use in wall constructions

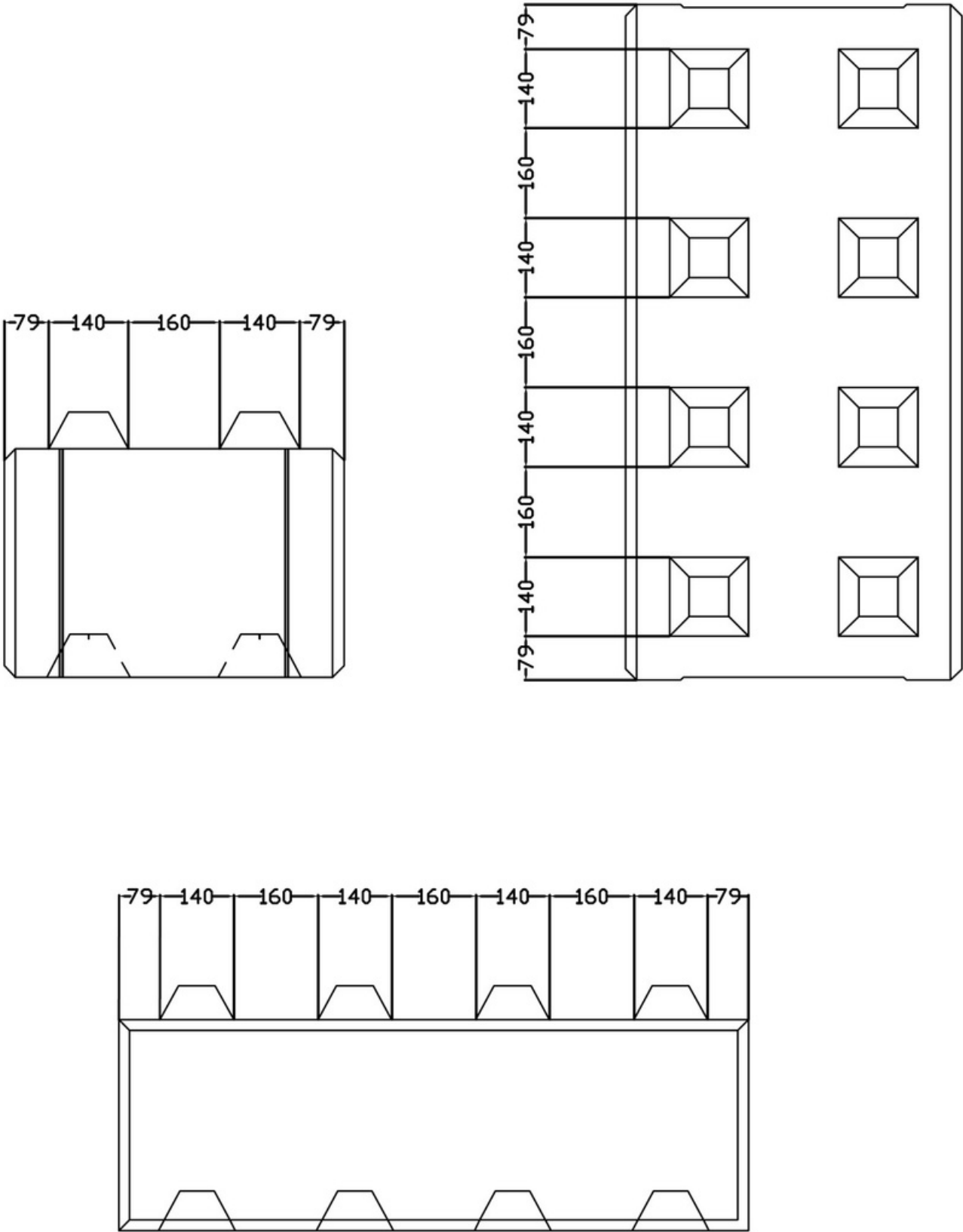
DRAWING SHEET(S)

Masterbloc® 1500x750x400

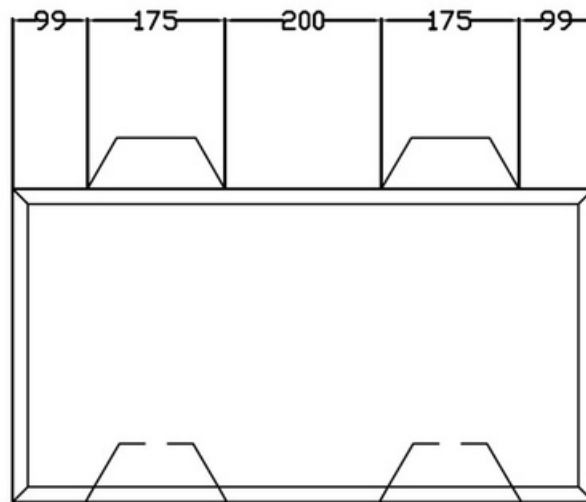
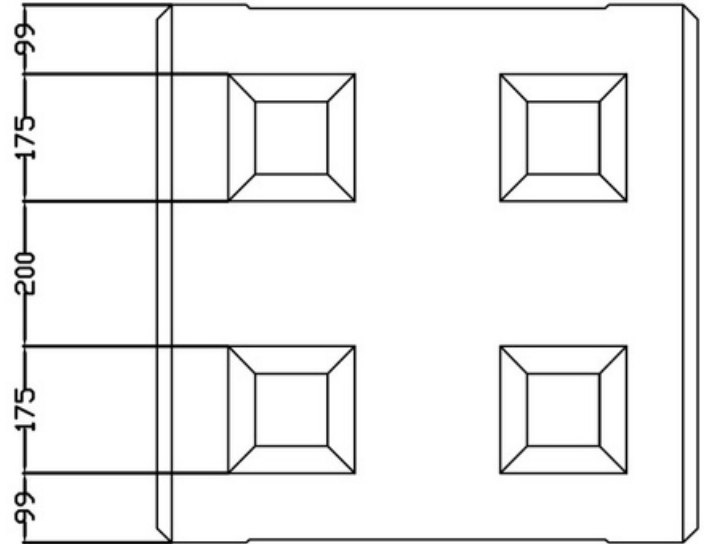
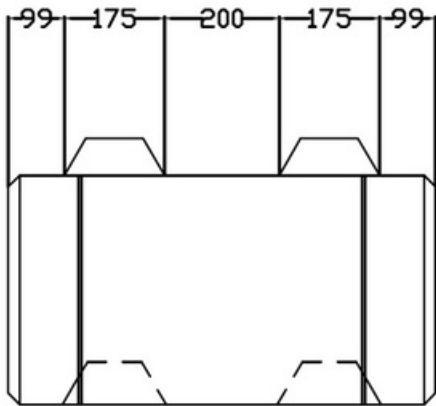


Pressed concrete stacking blocks for use in wall constructions

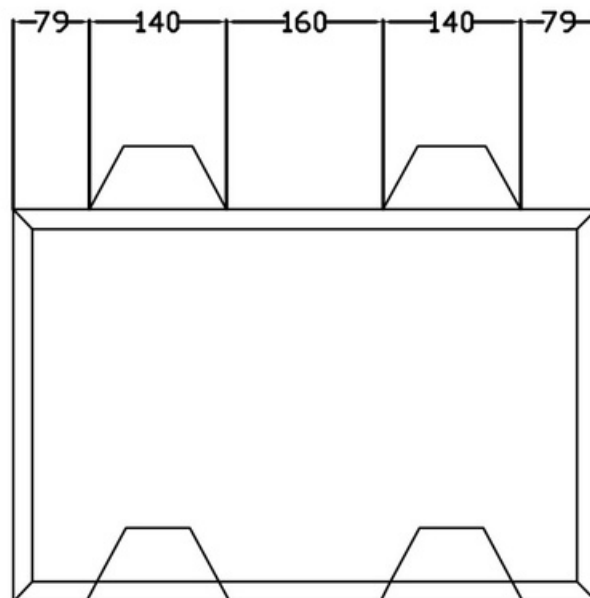
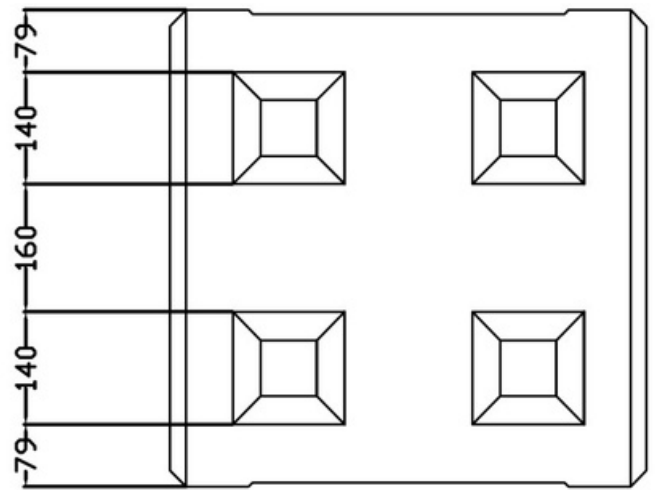
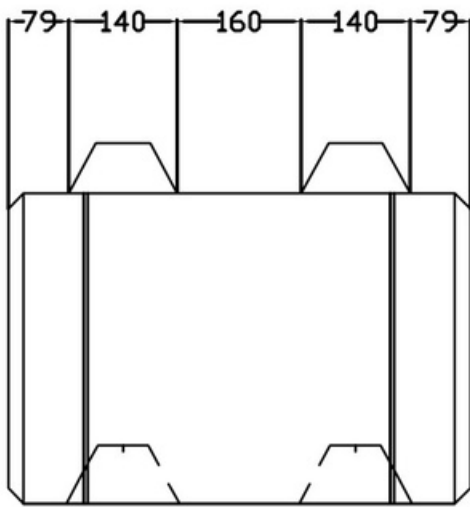
Masterbloc 1200x600x400



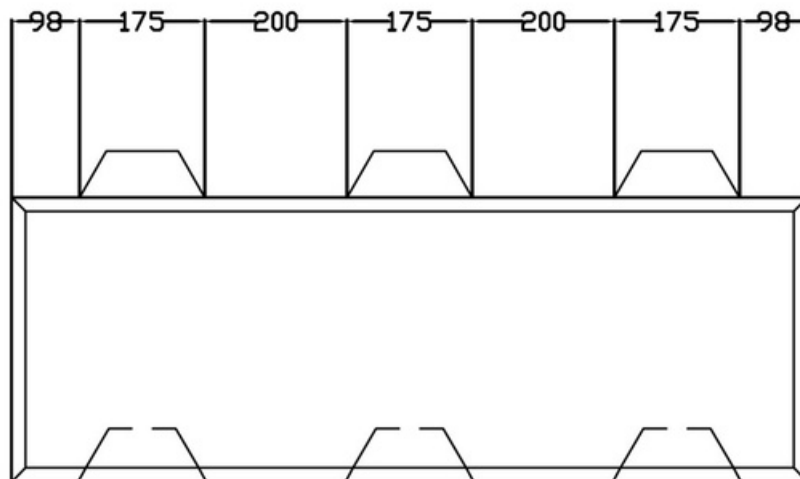
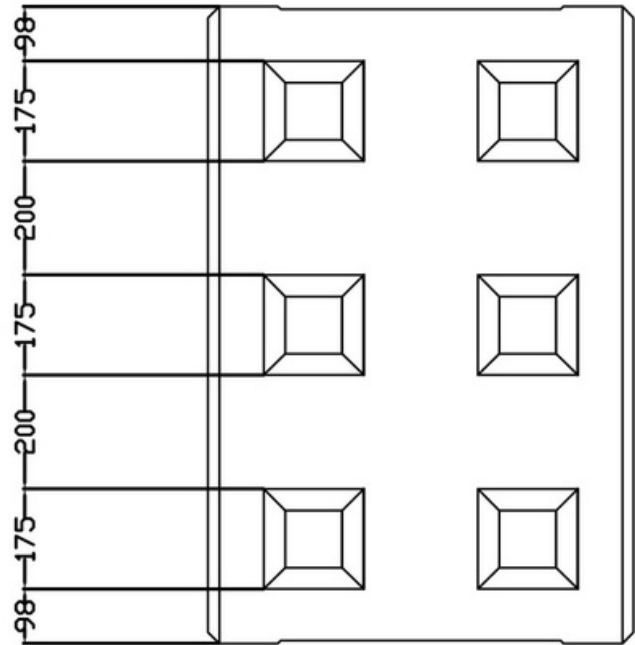
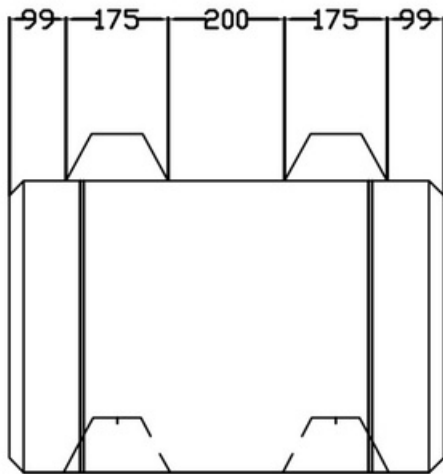
Pressed concrete stacking blocks for use in wall constructions

Masterbloc 750x750x400

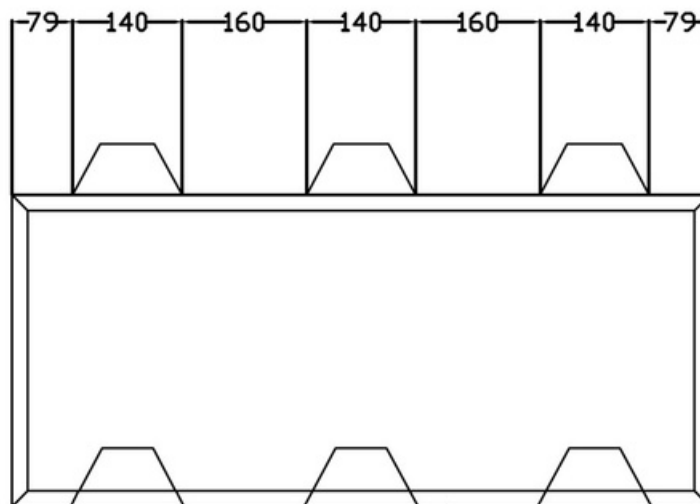
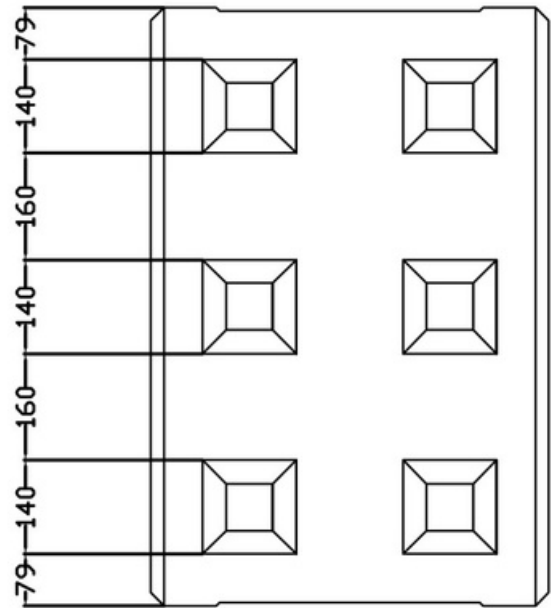
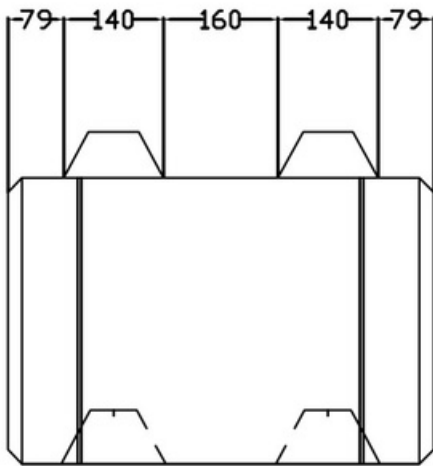
Pressed concrete stacking blocks for use in wall constructions

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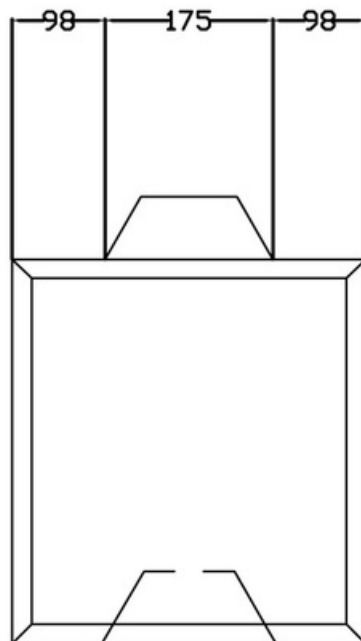
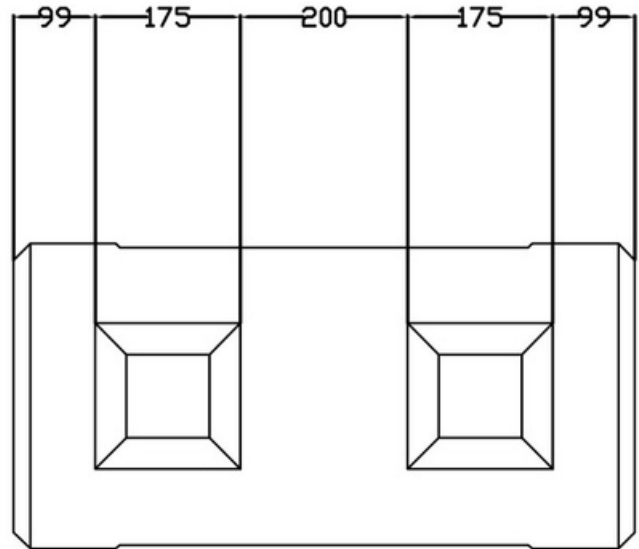
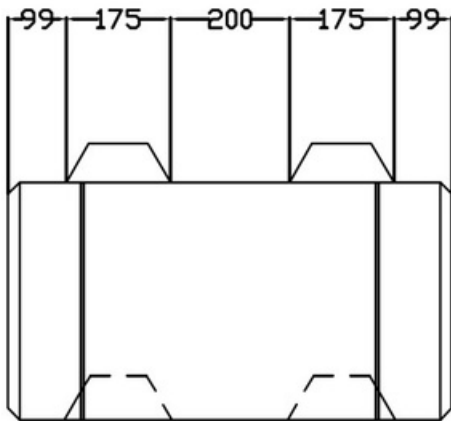
Pressed concrete stacking blocks for use in wall constructions

Masterbloc 1125x750x400

Pressed concrete stacking blocks for use in wall constructions

Masterbloc 900x600x400

Pressed concrete stacking blocks for use in wall constructions

Masterbloc 375x750x400

Pressed concrete stacking blocks for use in wall constructions

Masterbloc 300x600x400

