cbs BETON

SOLUTIONS FOR AGRICULTURE AND BIOGAS

For guaranteed quality and optimum silage preservation





www.cbs-beton.com



WHY CHOOSE CBS BETON?

Decades of experience in agriculture

In 1998, Henk Ciers started producing retaining walls under the name CBS Beton. The range was gradually expanded to include a wide selection of trench silo walls.

We have invested heavily in automation and employ some 200 motivated employees.

Quality – Certificates – Service

Since our founding in the late 1990s, production in Wielsbeke has evolved enormously, in both quality and organisation.

We constantly work to meet the demands of the marketplace in terms of **quality** – we have our own lab where samples are taken from production every day. We also have the necessary **certificates**. And we have the enthusiasm required to continue to earn them.

And last but not least ... CBS Beton also offers a **comprehensive logistics service**, from loading your truck to organising deliveries to the job site, with or without positioning from the truck. You ask, we produce and deliver.







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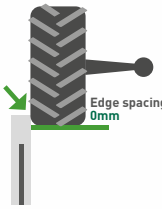


TRENCH SILO

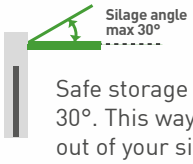
Get the maximum return from your trench silo

CBS Concrete has all the necessary certifications for agricultural concrete products.

CE
EN 15258



CBS Beton offers Agri walls up to **20 tonnes axle load**. Even the heaviest tractors and silage wagons can be driven safely alongside our Agri walls.



Safe storage and slopes up to 30°. This way, you get the most out of your silo.

The drains are ideal for separating rainwater and silage effluents.

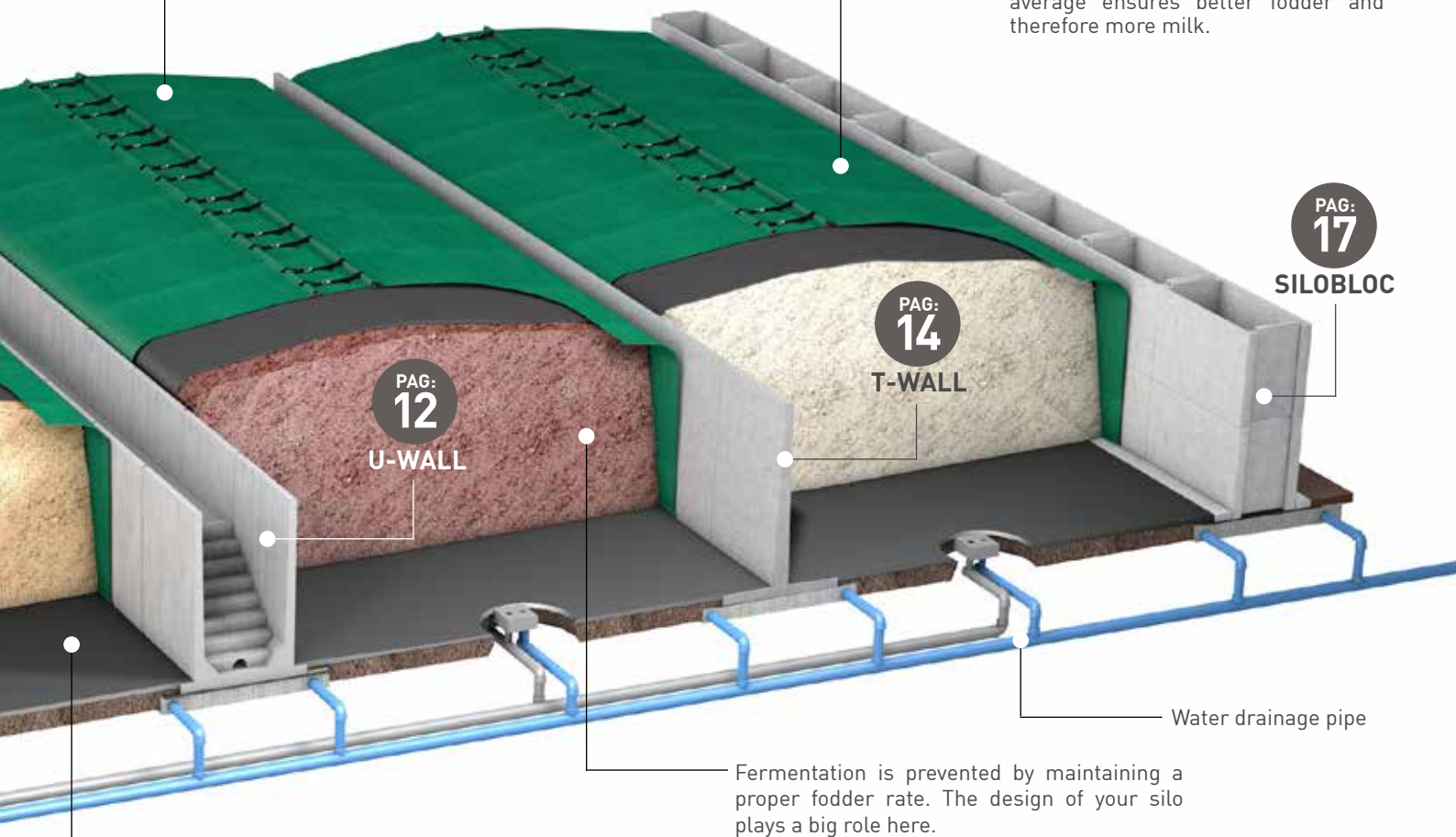
Drainage tube for silage effluents

Storage tank for silage effluents.

Silage Safe

The **Silage Safe** cover system guarantees optimum preservation of your silage, combined with unique juice drainage. Besides being back-saving and ergonomic, it is also very efficient.

A dry matter content of 35 % on average ensures better fodder and therefore more milk.



Water drainage pipe

Fermentation is prevented by maintaining a proper fodder rate. The design of your silo plays a big role here.

Maintain and check your trench silos at regular intervals.

What to consider when buying a trench silo?

- Which kind of silage will I ensile?
- What storage capacity do I need and are there future expansion plans?
- What load should the walls be able to handle?
- Which cover system do I want to use?
- How can I separate rainwater and silage effluents?
- How should the trench silo be orientated?
- What certificates are required?

Standardization, design, production & quality control

Design and stability

CBS Beton is the only manufacturer of retaining walls with an in-house design and engineering office. This enables us to develop a tailored proposal and avoid surprises during the execution of your project.

Our retaining walls are calculated in accordance with the applicable standards:

- NBN EN 1990: Eurocode 0 - Basis of structural design + national annex
- NBN EN 1991: Eurocode 1 - Actions on structures + national annexes
- NBN EN 1992: Eurocode 2 - Design of concrete structures + national annexes
- NBN EN 1997: Eurocode 7 - Geotechnical design + national annexes
- NBN EN 1998: Eurocode 8 - Design of earthquake-resistant structures + national annexes

CE AND BENOR CERTIFICATION

The production of retaining wall elements complies with the European standard NBN EN 15258 and its Belgian nationa supplement NBN B 21-132. As a result, CBS Beton holds the CE certificate for EN 15258 and was the first manufacturer to achieve the BENOR certification for retaining walls.

CE EN 15258 620 BENOR 0437

Durable and high-quality concrete

CBS Beton's concrete products are manufactured in compliance with the European concrete standard NBN EN 206 and the Belgian national supplement NBN B 15-001.

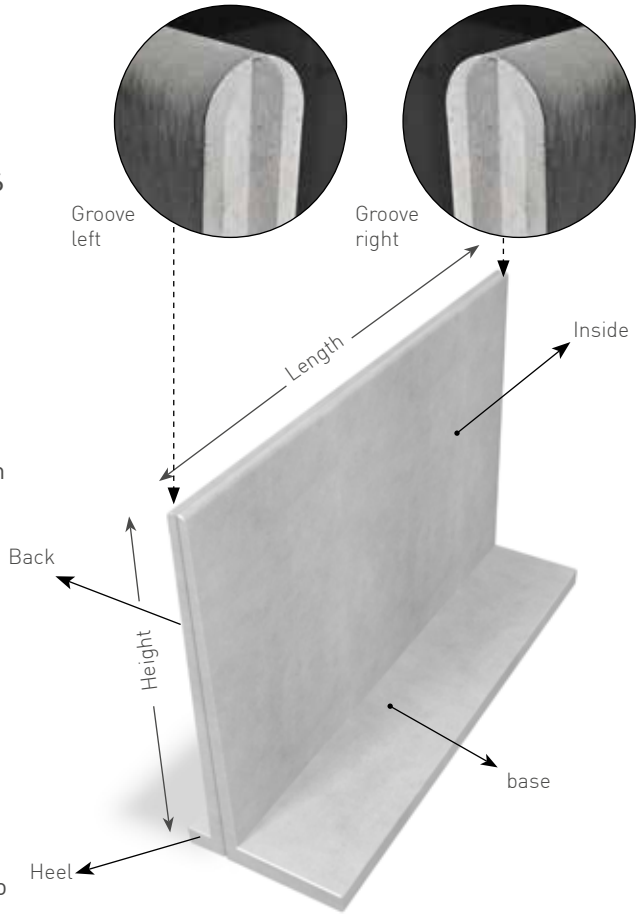
Concrete strength class: High-strength concrete C60/75
Water-cement ratio: 0.45

Environmental exposure classes (NBN EN 206):

- XC4: Corrosion induced by carbonation – alternating wet and dry conditions
- XD3: Corrosion induced by chlorides from sources other than seawater – alternating wet and dry conditions
- XS3: Corrosion induced by chlorides from seawater – tidal, splash, and spray zones
- XF4: Freeze-thaw attack with or without de-icing salts – high water saturation with de-icing salts or seawater
- XA3: Highly chemically aggressive environments

Environmental classes (NBN B 15-001):

- EE4: Humid indoor or outdoor environment – Frost and de-icing salts (presence of locally thawed, splashing, or running de-icing salt-laden water)
- ES4: Marine environment – Tidal and splash zones
- EA3: Highly chemically aggressive environments according to NBN EN 206, Table 2



Proper compaction

A high wheel pressure is vital for properly compacting your silage pit. The higher the axle load, the better the silage compaction. This applies to every pit: corn, grass or "lasagna". The higher the wheel pressure, the better the compaction.



An edge distance of 0 cm!

Our silo walls are designed so you can be drive right up to the edge. This allows the entire width of the silo to be used to compact the silage. This is the best way to preserve your silage.

Axle load



The axle load is calculated by dividing the mass of the compactor by the number of axles (so usually by 2). At CBS Beton, all walls are calculated with an edge clearance of 0 cm so that you can drive over the full width of your silo. Here, CBS Beton meets the strictest standards. When choosing your new silo, it is very important to check both the axle load and the edge clearance.

The use of tandem and tridem combinations requires a special calculation. If you want to drive these machines to the edge, it is best to contact our engineering office.

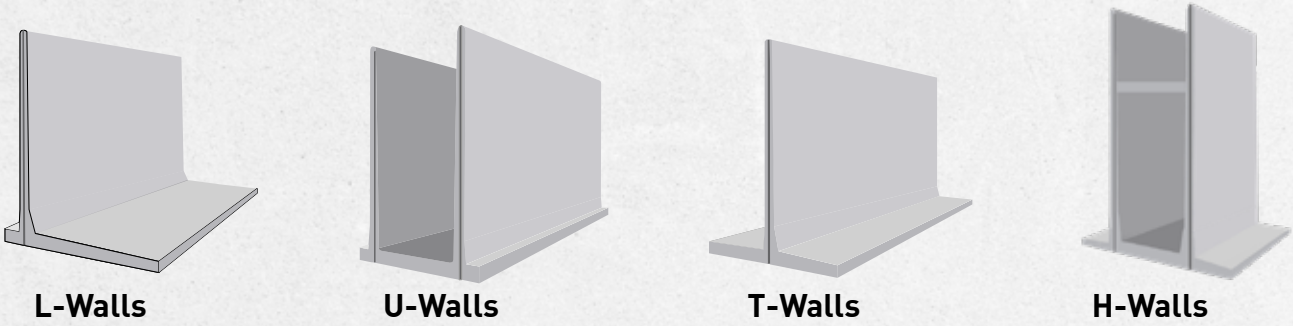
That is why you choose CBS Beton

- ✓ The factories of CBS Beton are certified according to the CE marking 2+. This means that the entire design and production chain is controlled by an externally recognized inspection organization. As a result, all products are CE marked.
- ✓ All products are manufactured in certified high-strength concrete C60/75, which is the highest strength class in the market. Moreover, they meet the highest chemical class XA3 (EA3).
- ✓ All visible surfaces have a smooth surface. Through the use of self-compacting concrete, they are also very dense and meet the highest visibility class.
- ✓ Thanks to the unique single-phase pouring system, the wall-floor connections of the agri-walls are watertight.
- ✓ In our range, you will find walls with an axle load of up to 20 tons with an edge distance of 0 cm.
- ✓ The quality is also found on the inside. All reinforcement is produced in our own steel company CCS-Steel.



- ✓ Our installation service guarantees fast and professional installation. Your silo can be used immediately after installation.
- ✓ The kit service offers the right solution to seal your trench silo. This way, air and water are kept out of your trench silo. Our specialists are happy to propose a customized sealing system for you.

OUTER AND INTERMEDIATE WALLS



Axle loads on outer L-walls

PRODUCT	FREESTANDING	WITH EARTH WALL
CLF10AM	7 ton	10 ton
CLF10A	10 ton	15 ton
CLAGRI	15 ton	20 ton
DLAGRI	20 ton	20 ton

Axle loads intermediate walls U&T

PRODUCT	DOUBLE-LOADED
CTAM	7 ton
CTA	10 ton
CTAGRI	15 ton
CUAGRI	15 ton
ETAGRI	20 ton

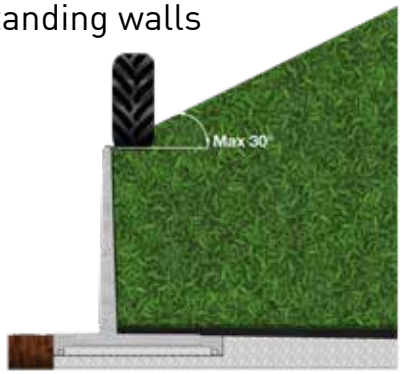
Axle loads intermediate & outer walls

PRODUCT	DOUBLE-LOADED
CSAN	10 ton

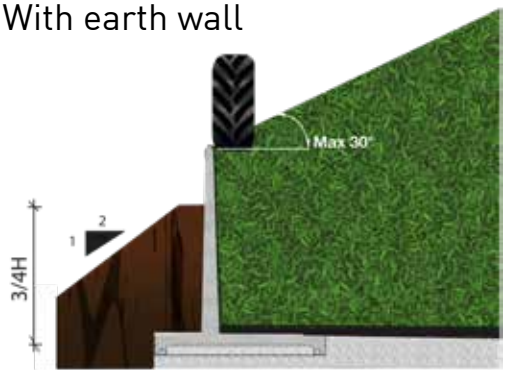
Axle loads on outer H-walls

PRODUCT	DOUBLE-LOADED
CUAGRIZH	15 ton

Freestanding walls



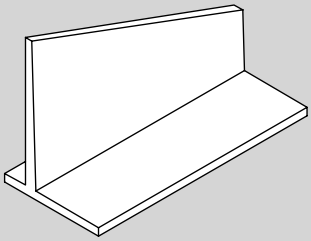
With earth wall





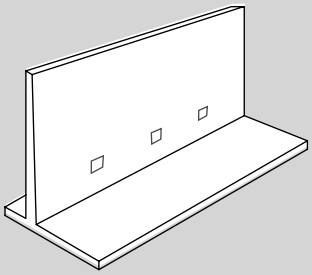






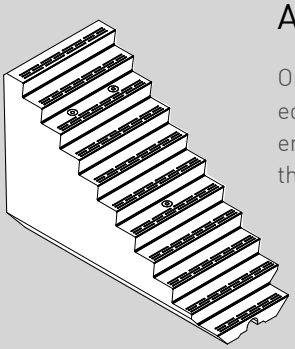
BEVELLED WALLS

On request or according to design, our walls can be beveled. Customization is not a problem.



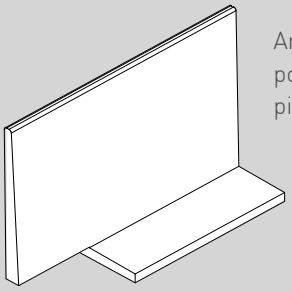
WALLS WITH MAIZE BRACKETS

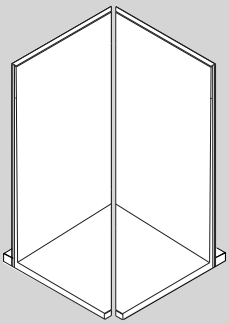
We can incorporate stainless steel maize brackets into the walls.



AGRI STAIRS

Our U-walls can be equipped with stairs at one end. They feature a recess at the bottom for drainage.





CORNERS

Any corner configuration is possible, including overlapping or mitered corners.

1 PRESERVATION OF CORN, GRASS

PRODUCTION OF BIOGAS

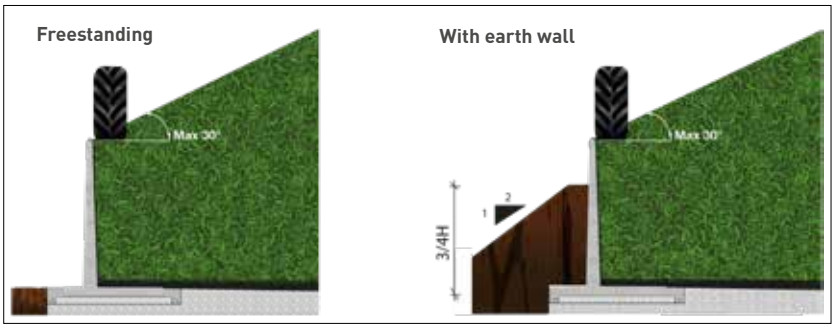


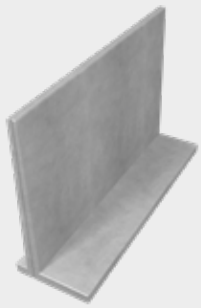
AGRI L-WALLS

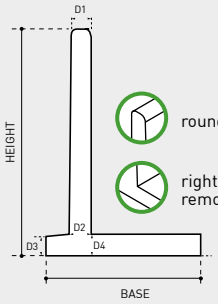
STORAGE: MAIZE, GRASS - BIOGAS PRODUCTION

Completely smooth

- Measuring and fitting possible
- Length adjustment
- With bevel
- Modification for corner formation



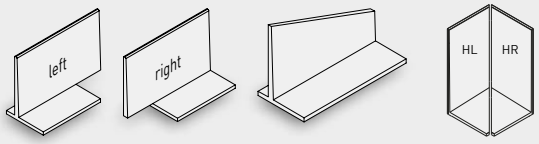




rounded top edge for foil

right angle for silage removal

MODIFIED/ADDITIONAL ELEMENTS



Agri L-corner section | With bevel | 2-piece corners

AGRI L-WALLS FREESTANDING 7 TONS - 10 TONS AXLE LOAD WITH EARTH WALL

		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D3 CM	D4 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
13159	CLF10AM 200x200	200	200	125	10,00	16,50	12,00	12,00	1757	2 x 2,5 T	groove - groove	C60/75
13160	CLF10AM 250x200	250	200	150	10,00	20,50	14,00	14,00	2367	2 x 2,5 T	groove - groove	C60/75
13161	CLF10AM 300x200	300	200	175	10,00	25,00	17,00	17,00	3165	2 x 5 T	groove - groove	C60/75
13360	CLF10AM 200x400	200	400	125	10,00	16,50	12,00	12,00	3519	2 x 2,5 T	groove - groove	C60/75
13359	CLF10AM 250x400	250	400	150	10,00	20,50	14,00	14,00	4768	2 x 2,5 T	groove - groove	C60/75

AGRI L-WALLS FREESTANDING 10 TONS - 15 TONS AXLE LOAD WITH EARTH WALL

		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D3 CM	D4 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
13156	CLF10A 200x200	200	200	140	10,00	16,50	12,00	12,00	1857	2 x 2,5 T	groove - groove	C60/75
13157	CLF10A 250x200	250	200	175	10,00	20,50	12,00	14,00	2540	2 x 2,5 T	groove - groove	C60/75
13158	CLF10A 300x200	300	200	210	10,00	25,00	12,00	17,00	3424	2 x 5 T	groove - groove	C60/75
13358	CLF10A 200x400	200	400	140	10,00	16,50	12,00	12,00	3718	2 x 2,5 T	groove - groove	C60/75
13357	CLF10A 250x400	250	400	175	10,00	20,50	12,00	14,00	5085	2 x 2,5 T	groove - groove	C60/75

AGRI L-WALLS FREESTANDING 15 TONS - 20 TONS AXLE LOAD WITH EARTH WALL

		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D3 CM	D4 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
10365	CLAGRI 139x500	139	500	105	12,00	15,00	14,00	15,00	3900	2 x 2,5 T	groove - groove	C60/75
10362	CLAGRI 164x500	164	500	105	12,00	15,00	14,00	15,00	4380	2 x 5 T	groove - groove	C60/75
10366	CLAGRI 189x500	189	500	135	12,00	16,00	14,00	15,00	5440	2 x 5 T	groove - groove	C60/75
10367	CLAGRI 214x500	214	500	135	12,00	16,00	14,00	15,00	5900	2 x 5 T	groove - groove	C60/75
10368	CLAGRI 264x400	264	400	180	12,00	20,00	14,00	15,00	6680	-	groove - groove	C60/75
12958	CLAGRIP 316x250	316	250	200	12,00	22,00	15,00	17,00	5256	-	groove - groove	C60/75
11966	CLAGRIP 423x200	423	200	250	12,00	30,00	22,00	24,00	6825	-	groove - groove	C60/75

AGRI L-WALLS FREESTANDING 20 TONS AXLE LOAD WITH LONG HEEL

		HEIGHT CM	LENGTH CM	BASE CM	HEEL CM	D1 CM	D2 CM	D3 CM	D4 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
13316	CLAGRIPPS 324x250	324	250	235	80	12,00	24,50	21,60	24,50	6868	-	groove - groove	C60/75
13317	CLAGRIPS 423x200	423	200	300	80,50	12,00	48,50	21,00	23,00	7485	-	groove - groove	C60/75

AGRI L-WALLS FREESTANDING 20 TONS AXLE LOAD

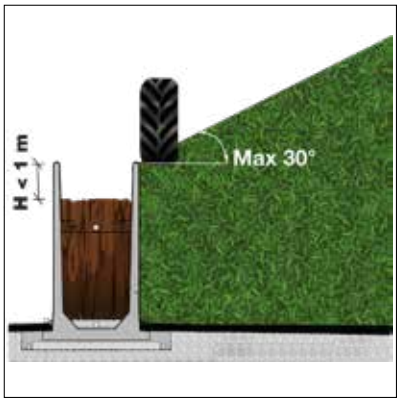
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D3 CM	D4 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
12040	ELAGRIP 271x400	271	400	231	12,00	24,00	21,00	21,00	9138	-	groove - groove	C60/75
11817	ELAGRIP 324x250	324	250	270	12,00	27,00	24,00	24,00	7325	-	groove - groove	C60/75
12186	ELAGRIP 423x200	423	200	290	12,00	30,00	22,00	23,00	7325	-	groove - groove	C60/75

P At the bottom of the wall, there is increased concrete coverage on the reinforcement to provide longer protection against acids, acting as a sacrificial layer.

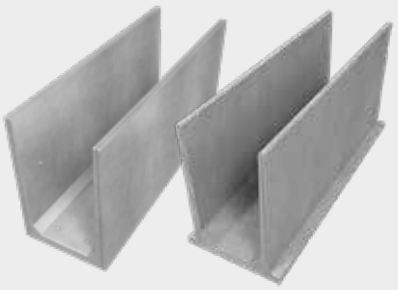
AGRI U-WALLS

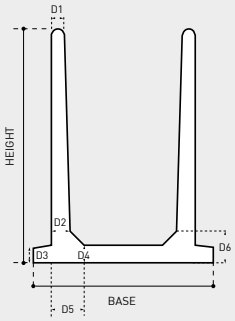
STORAGE: MAIZE, GRASS - BIOGAS PRODUCTION

Completely smooth

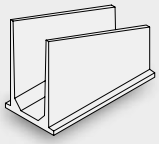


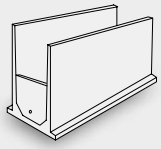
- Measuring and fitting possible
- Length adjustment
- With bevel
- 1 side enclosed as capped/end wall

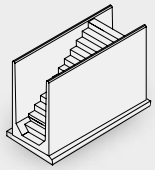




MODIFIED/ADDITIONAL ELEMENTS


with bevel


capped/end wall


with stairs

		AGRI U-WALLS WITHOUT HEEL 15 TONS AXLE LOAD											
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D4 CM	D5 CM	D6 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
10398	CUAGRI 100x400	100	400	130	10,00	15,00	15,00	23,00	22,50	4135	4 x 2,5 T	groove - groove	C60/75
10636	CUAGRIM 200x400	200	400	130	10,00	15,00	15,00	27,50	27,00	6760	4 x 2,5 T	groove - groove	C60/75
11445	CUAGRI 214x400	214	400	130	10,00	15,00	15,00	30,00	24,50	7175	4 x 5 T	groove - groove	C60/75
12607	CUAGRIP 264x400	264	400	155	10,00	15,00	18,00	42,50	38,00	9683	4 x 5 T	groove - groove	C60/75
12704	CUAGRIP 316x250	316	250	156	10,00	17,00	18,00	27,80	26,00	6780	4 x 5 T	groove - groove	C60/75
12045	CUAGRIP 316x400	316	400	156	10,00	16,50	20,00	44,00	45,00	11562	4 x 5 T	groove - groove	C60/75

		AGRI U-WALLS WITH HEEL15 TONS AXLE LOAD											
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D3 CM	D4 CM	D5 CM	D6 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
11446	CUAGRIZ 214x400	214	400	170	10,00	15,00	14,00	15,00	30,00	35,00	7570	4 x 5 T	groove - groove	C60/75
12608	CUAGRIPZ 264x400	264	400	190	10,00	15,00	14,00	18,00	40,00	48,00	10400	4 x 5 T	groove - groove	C60/75
11825	CUAGRIPZ 316x400	316	400	191	10,00	16,50	16,00	20,00	41,50	50,00	12360	4 x 5 T	groove - groove	C60/75
12955	CUAGRIPZ 316x250	316	250	191	10,00	17,10	15,00	18,00	25,30	26,80	7240	4 x 5 T	groove - groove	C60/75

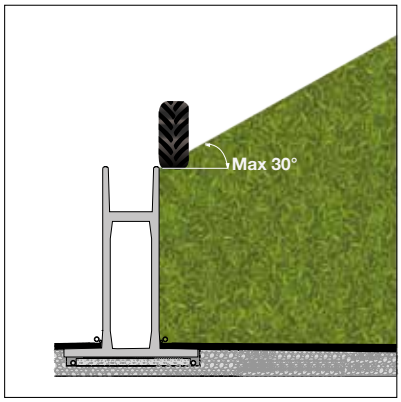
P At the bottom of the wall, there is increased concrete coverage on the reinforcement to provide longer protection against acids, acting as a sacrificial layer.

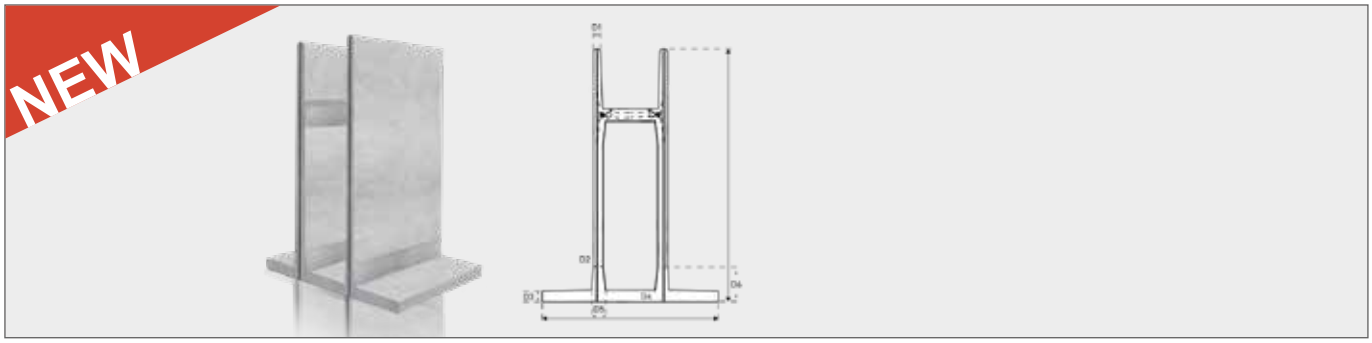


AGRI H-WALLS

STORAGE: MAIZE, GRASS - BIOGAS PRODUCTION

Completely smooth





AGRI H-WALL UP TO 15 TONS AXLE LOAD

We have launched a new concrete element for the construction of trench silos. Thanks to these H elements, a trench silo can be built very easily and quickly. This is a free standing wall with circulation corridor which does not need to be filled with earth or sand.

Features

- The H-walls do not require filling
- Ideal for applying foil and/or a cover system for feed protection
- Practical for dividing existing silo
- Concrete quality C60/75
- Connection groove-groove

To place the CUAGRIZH 423x250 wall, the following equipment is required: lifting hooks and a lifting beam.

- 4 x KKA
- 4 x HBS RD24
- Lifting bar

The wall is suitable for an axle load of 15T with an edge distance of 0 cm. Stairs are available upon request.





		AGRI H-WALL UP TO 15 TONS AXLE LOAD						
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	WEIGHT KG	LIFTING HOOKS	
							KKA	HBS RD24
13318	CUAGRIZH 316X250	316	250	250	10,00	7080	/	/
12944	CUAGRIZH 423X250	423	250	295	12,00	12385	4 x 5	4 x HBS RD24

AGRI T-WALLS

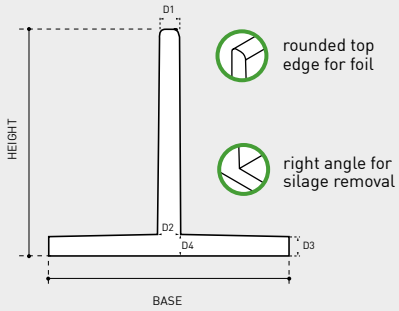
STORAGE: MAIZE, GRASS - BIOGAS PRODUCTION

Completely smooth



- Measuring and fitting possible
- Length adjustment
- With bevel
- Modification for corner formation

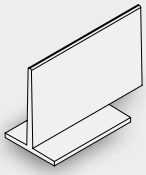




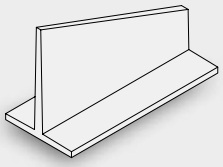
rounded top edge for foil

right angle for silage removal

MODIFIED/ADDITIONAL ELEMENTS



slide-on T (for corner)



with bevel

		AGRI T-WALLS 7 TONS AXLE LOAD										
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D3 CM	D4 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
11074	CTAGRIM 200x250	200	250	120	10,00	16,00	12,00	13,00	2350	4 x 2,5 T	groove - groove	C60/75
13364	CTAM 200x200	200	200	125	10,00	14,00	12,00	12,00	1840	2 x 2,5 T	groove - groove	C60/75
13014	CTAM 250x200	250	200	160	10,00	23,00	12,00	14,00	2524	4 x 2,5 T	groove - groove	C60/75
13341	CTAM 300x200	300	200	190	10,00	23,00	12,00	17,00	3416	4 x 2,5 T	groove - groove	C60/75

		AGRI T-WALLS 10 TONS AXLE LOAD										
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D3 CM	D4 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
13333	CTA 200x200	200	200	135	10,00	14,00	12,00	12,00	1920	4 x 2,5 T	groove - groove	C60/75
13013	CTA 250x200	250	200	160	10,00	23,00	12,00	14,00	2486	4 x 2,5 T	groove - groove	C60/75
13334	CTA 300x200	300	200	190	10,00	23,00	12,00	17,00	3421	4 x 2,5 T	groove - groove	C60/75

		AGRI T-WALLS 15 TONS AXLE LOAD										
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D3 CM	D4 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
11478	CTAGRI 139x500	139	500	135	12,00	15,00	14,00	15,00	4426	4 x 2,5 T	groove - groove	C60/75
10499	CTAGRI 164x500	164	500	120	12,00	18,00	14,00	15,00	4980	4 x 2,5 T	groove - groove	C60/75
10501	CTAGRI 214x500	214	500	160	12,00	18,00	14,00	15,00	6800	-	groove - groove	C60/75
10382	CTAGRI 264x400	264	400	180	12,00	22,00	14,00	16,00	7000	-	groove - groove	C60/75
11811	CTAGRIP 316x250	316	250	200	12,00	25,00	16,00	18,00	5580	-	groove - groove	C60/75
13284	CTAGRIP 423x200	423	200	240	12,00	35,00	22,00	23,00	6930	-	groove - groove	C60/75

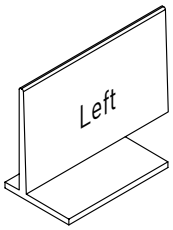
		AGRI T-WALLS 20 TONS AXLE LOAD										
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	D3 CM	D4 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
11833	ETAGRIP 324x250	324	250	250	12,00	30	18	24,50	6840	-	groove - groove	C60/75
13219	ETAGRIP 423x200	423	200	300	12,00	35	22	23,00	7428	-	groove - groove	C60/75

P At the bottom of the wall, there is increased concrete coverage on the reinforcement to provide longer protection against acids, acting as a sacrificial layer.

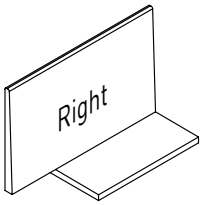
CORNER SOLUTIONS FOR AGRI WALLS

1) Corner elements for L-walls

		HEIGHT CM	LENGTH CM	BASE CM	KKA	WEIGHT KG
10370	CLAGRIHL 139x485	139	485	105	2 x 2,5 T	3528
10372	CLAGRIHL 164x485	164	485	105	2 x 2,5 T	3930
10374	CLAGRIHL 189x484	189	484	135	2 x 5 T	4725
10376	CLAGRIHL 214x488	214	488	135	2 x 5 T	5142
10378	CLAGRIHL 264x388	264	388	180	-	5261



		HEIGHT CM	LENGTH CM	BASE CM	KKA	WEIGHT KG
10371	CLAGRIHR 139x485	139	485	105	2 x 2,5 T	3528
10373	CLAGRIHR 164x485	164	485	105	2 x 2,5 T	3930
10375	CLAGRIHR 189x484	189	484	135	2 x 5 T	4725
10377	CLAGRIHR 214x488	214	488	135	2 x 5 T	5142
10379	CLAGRIHR 264x388	264	388	180	-	5261

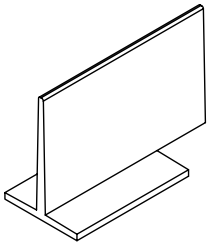






2) Corner elements for T-walls

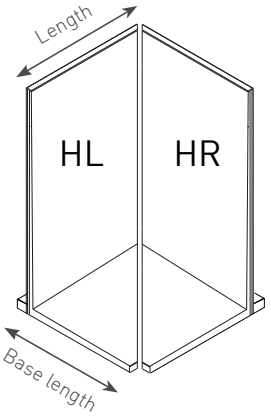
		HEIGHT CM	LENGTH CM	BASE CM	KKA	WEIGHT KG
11478	CTAGRIO 139x485	139	485	135	4 x 2,5 T	3962
10500	CTAGRIO 164x485	164	485	120	4 x 2,5 T	4416
10502	CTAGRIO 214x484	214	484	160	4 x 5 T	5718
10384	CTAGRIO 264x380	264	380	180	-	5666



3) Two-part 90° corner (2 x 45°) for L-walls

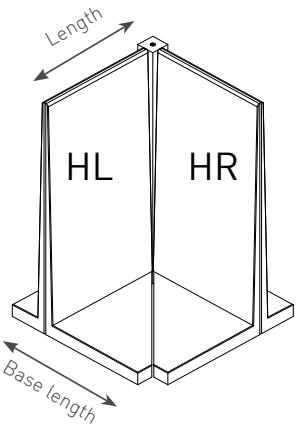
		HEIGHT CM	LENGTH CM	BASE CM	WEIGHT KG
13011	CLAGRIPHL 316x250	316	250	200	4664
13012	CLAGRIPHR 316x250	316	250	200	4664





4) Two-part 90° corner (2 x 45°) + corner column

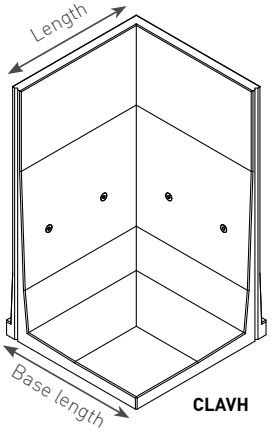
		HEIGHT CM	LENGTH CM	BASE CM	WEIGHT KG
13100	CLAGRIPHL 423x200	423	200	250	6142
13101	CLAGRIPHR 423x200	423	200	250	6142

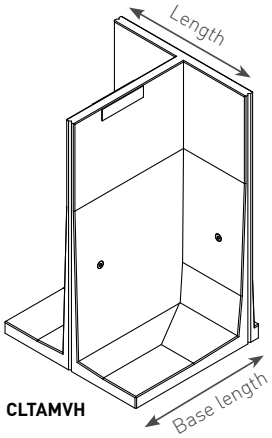


5) Fixed angle

		HEIGHT CM	LENGTH CM	BASE CM	WEIGHT KG
13270	CLAVH 250x145	250	145	175	2960
13273	CLAMVH 250x145	250	145	150	2686
13268	CLTAVH 250x160	250	160	175	3036
13272	CLTAMVH 250x160	250	160	150	2908

These corner walls are only provided for our light range of trench silo walls: CLF10A(M) (page 11) and the CTA(M) (page 14)

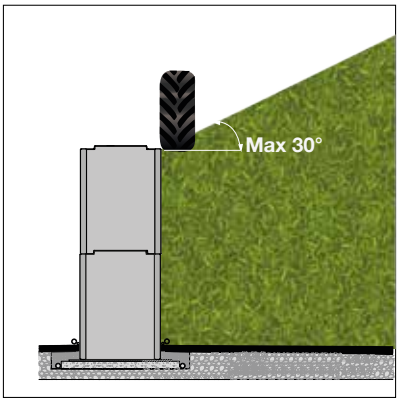




SILOBLOC

STORAGE: MAIZE, GRASS

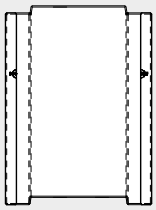
COMPLETELY SMOOTH



SILOBLOC by CBS Beton

NEW





MODIFIED/ADDITIONAL ELEMENTS



Circulation corridor



Stairs



Cover plate

NEW TRENCH SILO SYSTEM UP TO 10 TONS AXLE LOAD

The Silobloc system introduces new blocks for building trench silos, offering a superior alternative to traditional wall construction: they are lightweight and stack easily. The elements feature horizontal and vertical connections with a tongue-and-groove joint, ensuring stability as a cohesive unit. Prior to commissioning the trench silo, the bins should be filled with crushed stone or sand. Always verify that the soil has adequate bearing capacity.

Features

- Quick and easy installation
- Walls can be raised later if needed
- Horizontal and vertical connection with a tongue and groove joint
- Practical for dividing existing silos





OUR SILOBLOC RANGE

1) SILOBLOC WITHOUT HEEL OR WITH CIRCULATION CORRIDOR, 10 TONS AXLE LOAD

1.1) (CSBLOC) Silobloc without heel



1.2) (CSBLOCB) Silobloc without heel with base plate



1.3) (CSBLOCC) Silobloc with circulation corridor



		SILOBLOC WITHOUT HEEL OR WITH CIRCULATION CORRIDOR, 10 TONS AXLE LOAD						
		HEIGHT CM	LENGTH CM	WIDTH CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
13241	CSBLOC 120 107,5x250	107,5	250	120	1785	4 x 2,5 T	tongue and groove	C60/75
13242	CSBLOC 120 157,5x250	157,5	250	120	2615	4 x 2,5 T	tongue and groove	C60/75
13245	CSBLOCC 120 157,5x250	157,5	250	120	2355	4 x 2,5 T	tongue and groove	C60/75
13331	CSBLOCB 120 107,5x250	107,5	250	120	2415	4 x 2,5 T	tongue and groove	C60/75
13250	CSBLOCB 120 157,5x250	157,5	250	120	3250	4 x 2,5 T	tongue and groove	C60/75

2) SILOBLOC WITH HEEL, 10 TONS AXLE LOAD

2.1) (CSBLOCZ) Silobloc with heel



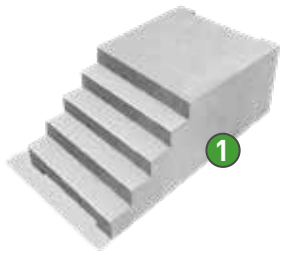
2.2) (CSBLOCZB) Silobloc with heel and base plate



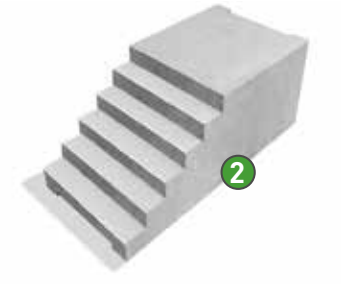
		SILOBLOC WITH HEEL, 10 TON AXLE LOAD						
		HEIGHT CM	LENGTH CM	WIDTH CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY
13244 CSBLOCZ 120	CSBLOCZ 120 107,5x250	107,5	250	180	2330	4 x 2,5 T	tongue and groove	C60/75
13243 CSBLOCZ 120	CSBLOCZ 120 157,5x250	157,5	250	180	3170	4 x 2,5 T	tongue and groove	C60/75
13302 CSBLOCZB 120	CSBLOCZB 120 107,5x250	107,5	250	180	3100	4 x 2,5 T	tongue and groove	C60/75
13251 CSBLOCZB 120	CSBLOCZB 120 157,5x250	157,5	250	180	3755	4 x 2,5 T	tongue and groove	C60/75

3) SILOBLOC STAIRS

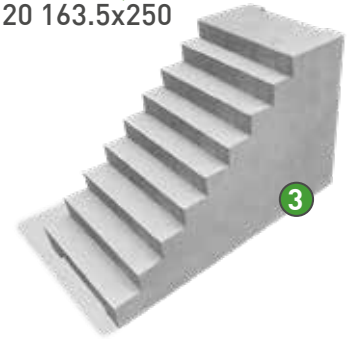
(CSBLOCT)
120 93,5x250



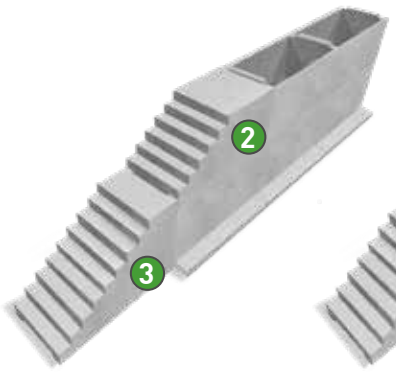
(CSBLOCT)
120 111x250



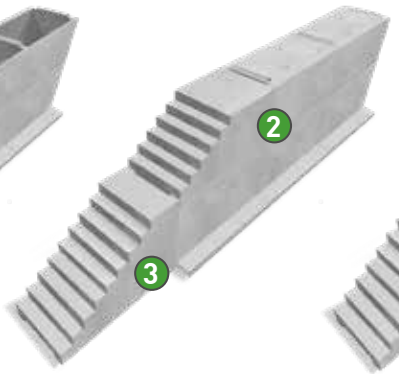
(CSBLOCT)
120 163.5x250



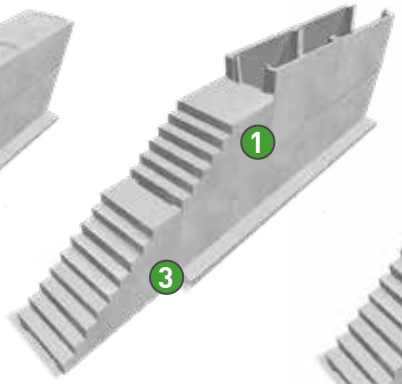
		SILOBLOC STAIRS					
		HEIGHT CM	LENGTH CM	WIDTH CM	WEIGHT KG	LIFTING HOOKS KKA	CONCRETE QUALITY
13247	CSBLOCT 120 93.5x250	93,5	250	120	1937	4 x 2,5 T	C60/75
13248	CSBLOCT 120 111x250	111	250	120	2090	4 x 2,5 T	C60/75
13249	CSBLOCT 120 163,5x250	163,5	250	120	3146	4 x 2,5 T	C60/75



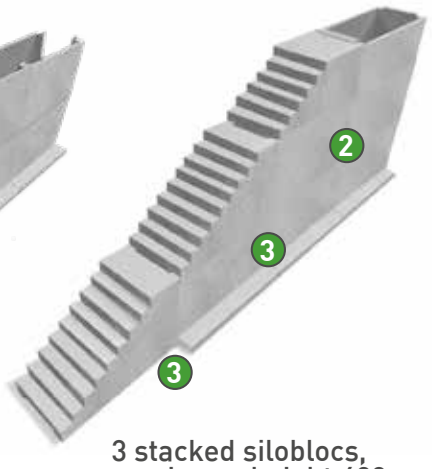
With stairs



With stairs and cover plate



With stairs and circulation corridor



3 stacked siloblocs, maximum height 423 cm

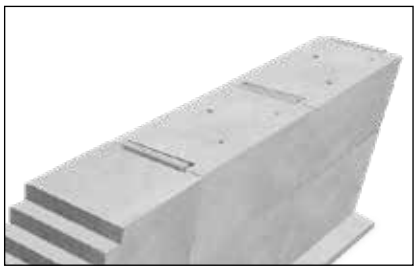
CAUTION! For your safety, we recommend installing a railing on the stairs.
The maximum allowable wall height is 423 cm

4) SILOBLOC COVER PLATE





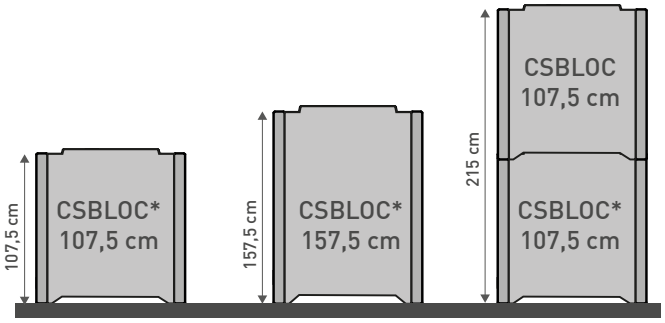
Lifting keys for cover plates



		SILOBLOC COVER PLATE					
		HEIGHT CM	LENGTH CM	WIDTH CM	WEIGHT KG	LIFTING HOOKS	CONCRETE QUALITY
13246	CSBLOCP 120 6x250	6	250	120	410	3 x 1,6 T	C60/75

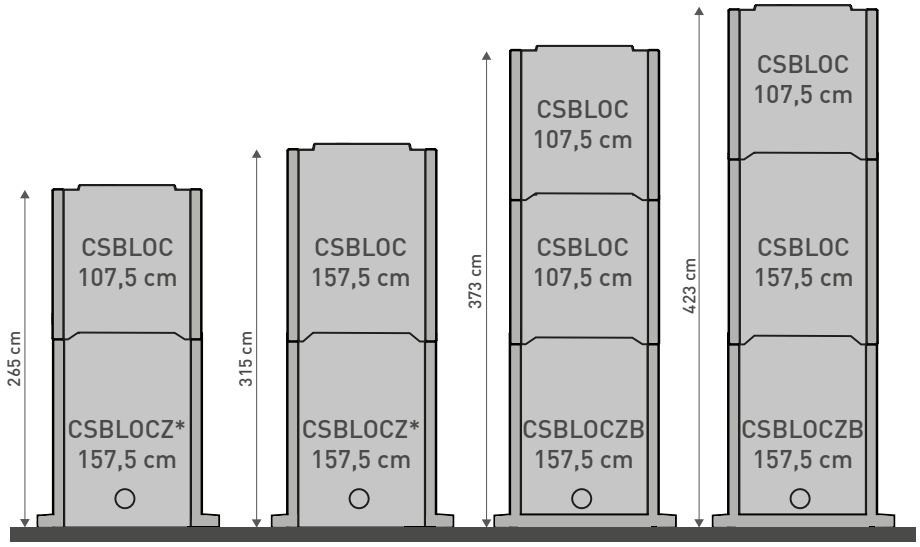
DIFFERENT ARRANGEMENTS OR COMBINATIONS

The advantage of the Silobloc system is the variety of possible configurations. This allows you to increase the capacity of your silo over time by stacking more blocks and thereby raising your wall to a maximum height of 4.23 m.

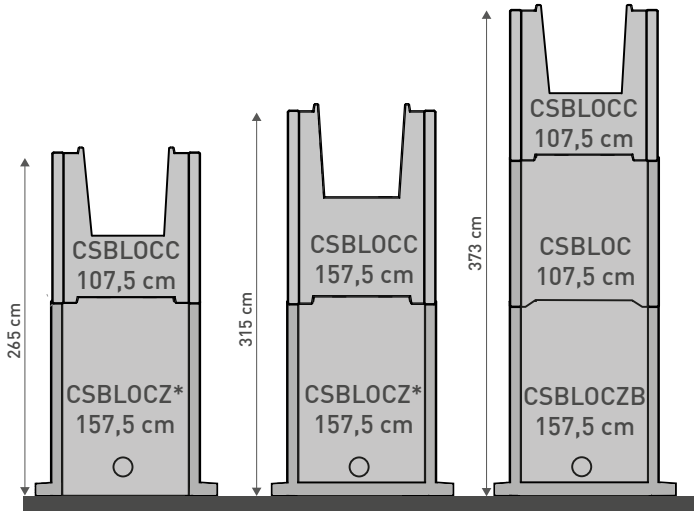


* Alternative , only for the lower silobloc

CSBLOCB
CSBLOCZ
CSBLOCZ



* Alternative CSBLOCZB



* Alternative CSBLOCZB

TYPES OF LIFTING HOOKS

4x KKA 2.5T

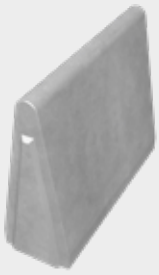
TRENCH SILO BLOCKS

STORAGE: MAIZE, GRASS

Completely smooth

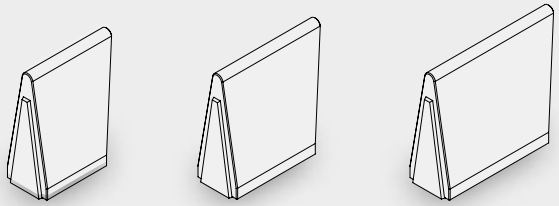
- Measuring and fitting possible
- Length adjustment
- Corner solutions

Our robust A-blocks allow for storage on existing floors without the need for additional earthwork. The groove system, combined with their substantial weight, ensures the elements remain securely in place. With a bottom width of 80 cm, the blocks do not shift during ensiling. The maximum pit height is 2 meters.





MODIFIED/ADDITIONAL ELEMENTS



		TRENCH SILO BLOCKS 2 TONS AXLE LOAD						
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	WEIGHT KG	LIFTING HOOKS MRD24	CONCRETE QUALITY
11437	CAB 200x119	200	119	80	21,00	3011	1 x MRD24	C60/75
11436	CAB 200x159	200	159	80	21,00	4027	2 x MRD24	C60/75
11435	CAB 200x199	200	199	80	21,00	5045	2 x MRD24	C60/75
11434	CAB 200x239	200	239	80	21,00	6060	2 x MRD24	C60/75



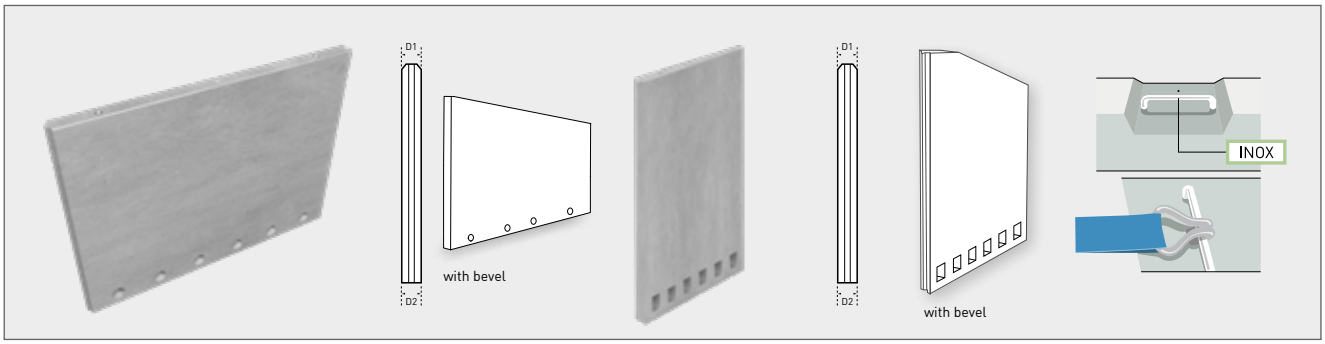
CAST-IN-PLACE SILO WALLS

STORAGE OF MAIZE, GRASS, SOLID MANURE HEAP

1 side completely smooth-formed + 1 side smoothed

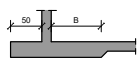
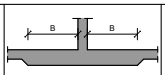
These walls are used for constructing trench silos or other storage areas: the slabs are anchored by reinforcement bars through openings at the bottom into the on-site poured bottom slab. The advantage of these elements lies in their tongue-and-groove connection and the greater customization possibilities such as length adjustment and chamfers.

- Length adjustment
- Bevel



		TRENCH SILO WALLS 10 TONS AXLE LOAD DOUBLE-LOADED									
		TOTAL HEIGHT CM	USEFUL HEIGHT CM	LENGTH CM	D1 CM	D2 CM	WEIGHT KG	LIFTING HOOKS KKA	CONNECTION	CONCRETE QUALITY	CSBLOK CM
11922	CSAN 125x300	125	100	300	15	15	1360	2 x 2,5 T	tongue - groove	C60/75	22,5x30
11923	CSAN 150x300	150	125	300	15	15	1600	2 x 2,5 T	tongue - groove	C60/75	22,5x30
11924	CSAN 175x300	175	150	300	15	15	1900	2 x 2,5 T	tongue - groove	C60/75	22,5x30
11925	CSAN 200x300	200	175	300	15	15	2160	2 x 2,5 T	tongue - groove	C60/75	22,5x30
11926	CSAN 225x300	225	200	300	15	15	2480	2 x 2,5 T	tongue - groove	C60/75	22,5x30
12343	CSAN 250x300	250	225	300	15	15	2755	2 x 2,5 T	tongue - groove	C60/75	22,5x30
11927	CSAN 280x225	280	250	225	16	16	2432	2 x 2,5 T	tongue - groove	C60/75	22,5x30
11928	CSAN 340x225	340	300	225	16	16	2962	2 x 2,5 T	tongue - groove	C60/75	22,5x30

Placement instructions

					Bar guards, for concrete opening	
H	d	H'*	B	B	Ø	L
125	25	100	70	2x60	1Ø14	125
150	25	125	70	2x60	1Ø14	125
175	25	150	70	2x60	1Ø14	125
200	25	175	80	2x65	1Ø16	135
225	25	200	90	2x70	1Ø16	135
250	25	225	100	2x75	1Ø16	155
280	30	250	110	2x80	1Ø16	155
340	40	300	130	2x90	1Ø16	185

*useful height



ACCESSORIES FOR TRENCH SILO WALLS: **CS SET BLOCKS**

- 1 - You have 2 options for securing panels:
  A - cast base (to be provided by customer) + block and bolt
  OR
  B - prefabricated levelling block + wooden wedges
- 2 - Iron for holes
- 3 - **SIKAFLEX** or **SILICONE** is used as a jointing agent. Silicone is a commonly used sealant for sealing joints after wall installation. Alternatively, Sikaflex can be used for an even better seal and longer lifespan.

Ensure to order and place your adjustment blocks in advance to prepare your site for installation!

Up to a height of 340 cm
• H 22.5 x W 30 x L 45 cm



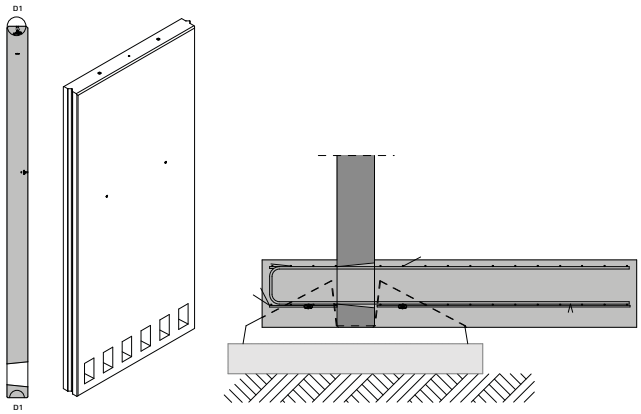
From a height of 340 cm
• H 42 x W 30 x L 150 cm



		SET BLOCKS					
		HEIGHT CM	LENGTH CM	WIDTH CM	WEIGHT KG	LIFTING HOOKS KKA	CONCRETE QUALITY
12182	CSBLOK 22,5x30	22,5	45	30	41	-	C60/75
12920	CSBLOK 42x30	42	150	30	263	2 x 1,3 T	C60/75

		TRENCH SILO WALLS 10 TONS AXLE LOAD SINGLE-LOADED									
		TOTAL HEIGHT CM	USEFUL HEIGHT CM	LENGTH CM	D1 CM	D2 CM	WEIGHT KG	LIFTING HOOKS MRD24	CONNECTION	CONCRETE QUALITY	CSBLOK CM
11541	CSA 445x200	445	400	200	25	25	5285	2 x MRD24	tongue - groove	C60/75	42x30
11543	CSA 555x200	555	500	200	25	25	6680	2 x MRD24	tongue - groove	C60/75	42x30

		TRENCH SILO WALLS 10 TONS AXLE LOAD DOUBLE-LOADED									
		TOTAL HEIGHT CM	USEFUL HEIGHT CM	LENGTH CM	D1 CM	D2 CM	WEIGHT KG	LIFTING HOOKS MRD24	CONNECTION	CONCRETE QUALITY	CSBLOK CM
11542	CSAD 445x200	445	400	200	25	25	5325	2 x MRD24	tongue - groove	C60/75	42x30
11544	CSAD 555x200	555	500	200	25	25	6745	2 x MRD24	tongue - groove	C60/75	42x30





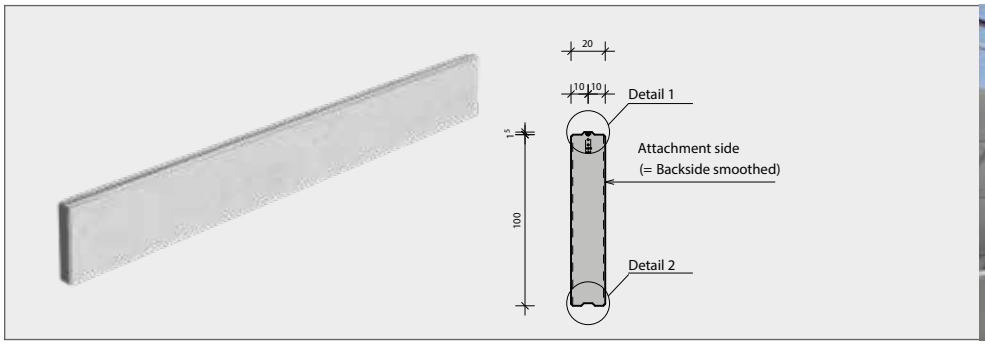
WALL PANELS

FOR BULK STORAGE (CEREALS ....) OR BUILDING WAREHOUSES FOR LIVESTOCK

1 side completely smooth-formed

- Customization possible
- Adjustments to length

Prefabricated wall panels offer an efficient solution for installing industrial and agricultural buildings, such as warehouses and storage areas. These panels enable fast, flexible, and cost-effective construction. Customization is also available upon customer request.

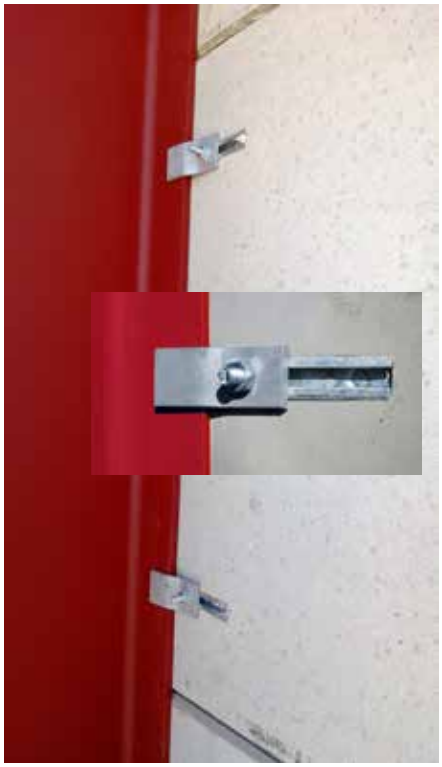




		WALL PANELS					
		HEIGHT CM	LENGTH CM	THICKNESS CM	WEIGHT KG	LIFTING HOOKS RTA	CONCRETE QUALITY
10524	CBARD20 100x700	100	700	20	2900	2 x 2,5 T	C60/75
10522	CBARD14 100x600	100	600	14	2030	2 x 2,5 T	C60/75
10525	CBARD20 120x700	120	700	20	3480	2 x 2,5 T	C60/75
10523	CBARD14 120x600	120	600	14	2440	2 x 2,5 T	C60/75

Other dimensions on request!





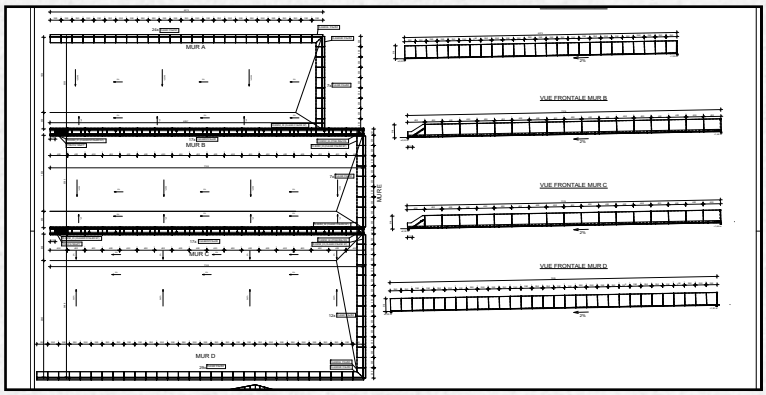


FULLY FINISHED TRENCH SILO

CBS Beton handles the entire coordination for you.

1) Advice and design

A design is initially prepared for the construction of intricate trench silos.



2) Foundation

For the installation of silo walls, a solid foundation with sufficient bearing capacity must be provided befor the walls being installed. The contractor is responsible for designing the foundation.



3) Placement

The walls are installed by CBS Beton's own professional installation service. We have the capacity to install up to 200 linear meters per day.



4) Finish

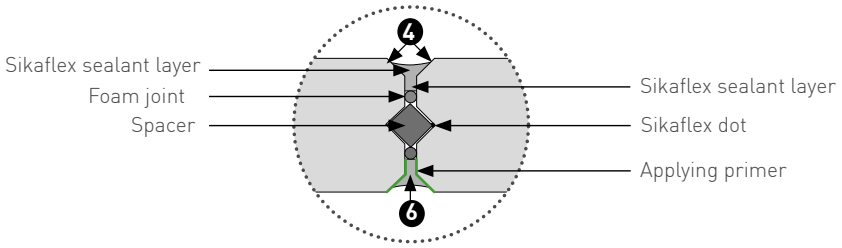
Spacer battens are placed between the walls and then sealed with caulking. For walls placed next to each other, we apply a Sikaflex joint sealing product using a caulking gun.



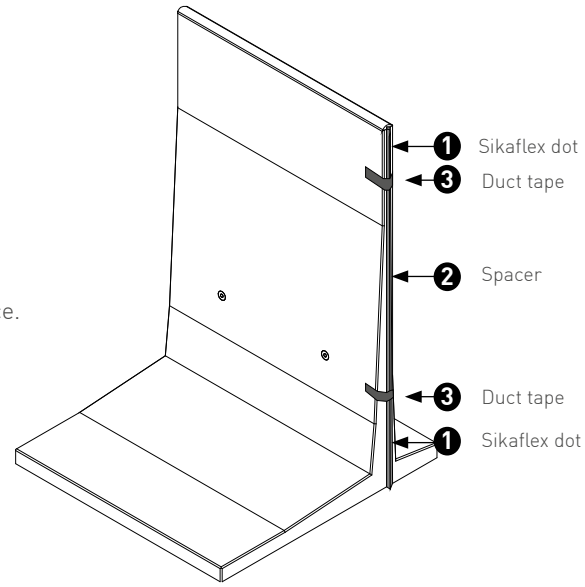
How do we go about sealing?

The sealing process uses spacers because the walls are not placed against each other.

Groove-groove connection







1) Apply a dot of Sikaflex above and below the groove.
2) Place the spacer in the groove.
3) Apply duct tape along 1 side to fix the spacer in place.
4) Place the 2 concrete elements against each other.
5) Remove the duct tape up to the groove.
6) Place the foam joint.
7) Applying primer on the concrete of the joint.
8) Seal the joint.

5) Pouring the floor

Asphalt and concrete require a solid foundation to ensure the load-bearing capacity of the pavement.
With a well-compacted foundation is established, asphalt and concrete can be poured on virtually any substrate.





2

STORAGE OF GRAIN AND TUBER CROPS

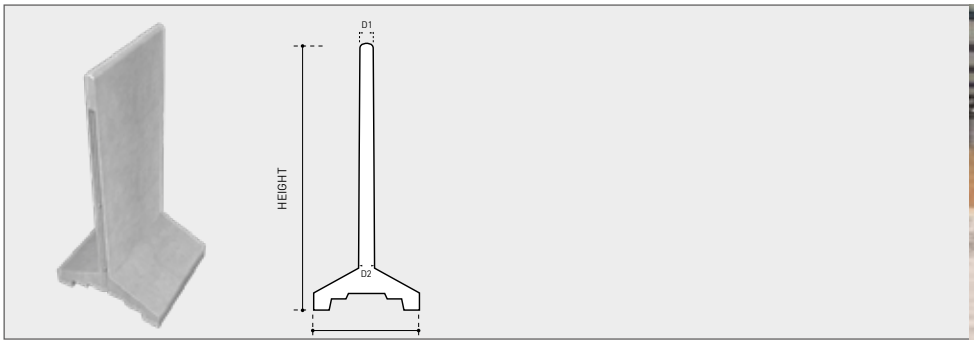


GRAIN T

STORING GRAIN, ONIONS AND POTATOES

COMPLETELY SMOOTH

The Grain T-wall is used for storing loose materials, e.g. grain and potatoes, and is suitable for use on an existing floor slab. The advantages: flexibility, high stability and easy to move with a forklift truck.





		GRAIN T'S UP TO 4M								
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	WEIGHT KG	LIFTING HOOKS RTA	CONNECTION	CONCRETE QUALITY
10694	CTGRA 300x125	300	125	140	10	16	2018	1 x 1,25 T	tongue - groove	C60/75
10691	CTGRA 400x100	400	100	200	10	24	2818	2 x 2,5 T	tongue - groove	C60/75

		GRAAN T'S FROM 5M									
		HEIGHT CM	LENGTH CM	BASE CM	D1 CM	D2 CM	WEIGHT KG	LIFTING HOOKS		CONNECTION	CONCRETE QUALITY
								MRD24	**MRD42**		
11917	CTGRA 500x100	500	100	240	24	50	6694	3 x MRD24	1 x MRD42	tongue - groove	C60/75
11844	CTGRA 600x100	600	100	295	24	50	9657	3 x MRD24	1 x MRD42	tongue - groove	C60/75

MRD24 to raise the wall and MRD42 to straighten the wall.



Anti-slip mats for grain T-walls are only used up to a height of 4 m.

Only for T-walls of 4 meters in height, installed on a smooth concrete floor, rubber anti-slip mats should be provided to prevent the walls from shifting. For heights of 5 and 6 meters, a fixing kit is included for chemical anchoring into the concrete floor.



3

ROUND STORAGE TANKS FOR LIQUID MANURE AND BIOGAS



Use and characteristics

Round storage tanks made of prefabricated concrete elements serve various purposes such as manure storage, digestion, water buffering, and more. The tongue and groove system, reinforced with tensioned steel cables, ensures the liquid-tightness of your silo.

Our silos range in diameter from 5 to 45 meters and in height from 3 to 8 meters. We have the capability to manufacture tanks up to 12,750 cubic meters in capacity. Depending on customer requirements and preferences, CBS Beton provides advice and guidance for constructing, expanding, or modifying storage facilities.

Placement

- Groundwork preparation by CBS Beton or by the customer
- Pouring of the floor
- Application of a joint band for waterproof sealing between the floor and the ring beam
- Placement of the elements on the cured floor slab
- Application of special mortar between the walls for a waterproof finish
- Tensioning of the steel cables in a first phase
- Bringing the steel cables to final tension in a second phase
- Pouring of the ring beam to connect the floor slab and the prefab elements

Advantages

- Flexible and swift installation
- Increased stability and liquid tightness due to the combination of tensioning steel cables with the tongue and groove system





Why a silo roof?

- No rainwater ingress into the silo and resistance to external weather influences
- Elimination of odor issues and reduction of the release of hazardous substances
- Precise assembly

SILO VOLUMES & INTERNAL DIAMETERS

H 3 M	H 4 M	H 5 M	H 6 M*	
VOLUME (m³)				INTERNAL DIAMETER
76	101	126	150	5,57
89	119	148	178	6,06
104	138	173	207	6,55
119	159	199	239	7,04
136	182	227	272	7,53
154	206	257	309	8,02
173	231	289	347	8,5
194	258	323	387	8,99
215	287	359	430	9,48
238	317	396	475	9,96
261	348	435	522	10,45
286	381	476	571	10,93
312	416	519	622	11,42
339	452	564	676	11,9
367	489	611	732	12,39
396	528	659	790	12,87
427	568	710	850	13,36
458	610	762	913	13,84
491	654	816	978	14,33
524	698	872	1045	14,81
559	745	929	1114	15,29
595	792	989	1185	15,78
632	842	1050	1259	16,26
670	892	1114	1334	16,75
709	944	1179	1412	17,23
749	998	1245	1493	17,71
791	1053	1314	1575	18,2
833	1110	1385	1660	18,68

***Panel width 1.56 m**

Other volumes available on request.

H 6 M*		H 7 M	
VOLUME (m³)	INTERNAL DIAMETER	VOLUME (m³)	INTERNAL DIAMETER
387	9,06	452	9,06
455	9,83	531	9,83
528	10,58	616	10,58
606	11,34	707	11,34
689	12,09	804	12,09
778	12,85	908	12,85
872	13,6	1018	13,6
972	14,36	1134	14,36
1077	15,12	1257	15,12
1188	15,88	1386	15,88
1303	16,63	1521	16,63
1425	17,39	1663	17,39
1551	18,14	1810	18,14
1683	18,9	1964	18,9
1820	19,65	2124	19,65
1963	20,41	2291	20,41
2112	21,17	2464	21,17
2264	21,92	2642	21,92
2422	22,67	2826	22,67
2589	23,44	3021	23,44
2758	24,19	3218	24,19
2934	24,95	3423	24,95
3113	25,7	3632	25,7
3299	26,46	3849	26,46
3492	27,22	4074	27,22
3687	27,97	4302	27,97
3890	28,73	4539	28,73
4095	29,48	4778	29,48
4309	30,24	5028	30,24
4529	31	5284	31
4750	31,75	5542	31,75
4981	32,51	5812	32,51
5213	33,26	6082	33,26
5454	34,02	6363	34,02
5700	34,78	6650	34,78
5949	35,53	6941	35,53
6206	36,29	7241	36,29
6465	37,04	7543	37,04
6733	37,8	7856	37,8
7007	38,56	8175	38,56

***Panel width 2.40 m**

Silo walls with 8-metre-high panels can be supplied on request.

LIFTING HOOKS

See technical sheet for lifting hooks needed for different types of walls.

- Ball head anchors (1) = KKA
- Ring transport anchors (2) = RTA
- Screw anchors = MRD24 - MRD42 (3)









ACCESSORIES

JUICE SEPARATOR FOR FORAGE SILOS







(CSAPAF 57X110)

The juice separator has external dimensions of 110 cm in length, 50 cm in width, and 57 cm in height. It includes a 12 cm thick lid, a drainage grate, and a manhole cover. Each unit weighs 475 kg.

Operation:

A bypass facilitates the separation of concentrated silo juices from those mixed with rainwater. Slower, more concentrated flows are directed to a storage pit. During heavy rainfall, faster flowing water spills over the partition into the bypass. This water, which is less concentrated, can be discharged to meet discharge standards.

Characteristics:

- ✓ The concrete juice separator is manufactured in concrete quality C50/60 for environmental class: XA3 - XC4
- ✓ A juice separator includes a certified, stainless steel lifting provision.
- ✓ The juice separator is made in one piece.

		JUICE SEPARATOR				
		HEIGHT CM	LENGTH CM	WIDTH CM	WEIGHT KG	CONCRETE QUALITY
12227	CSAPAF	57	110	50	475	C50/60

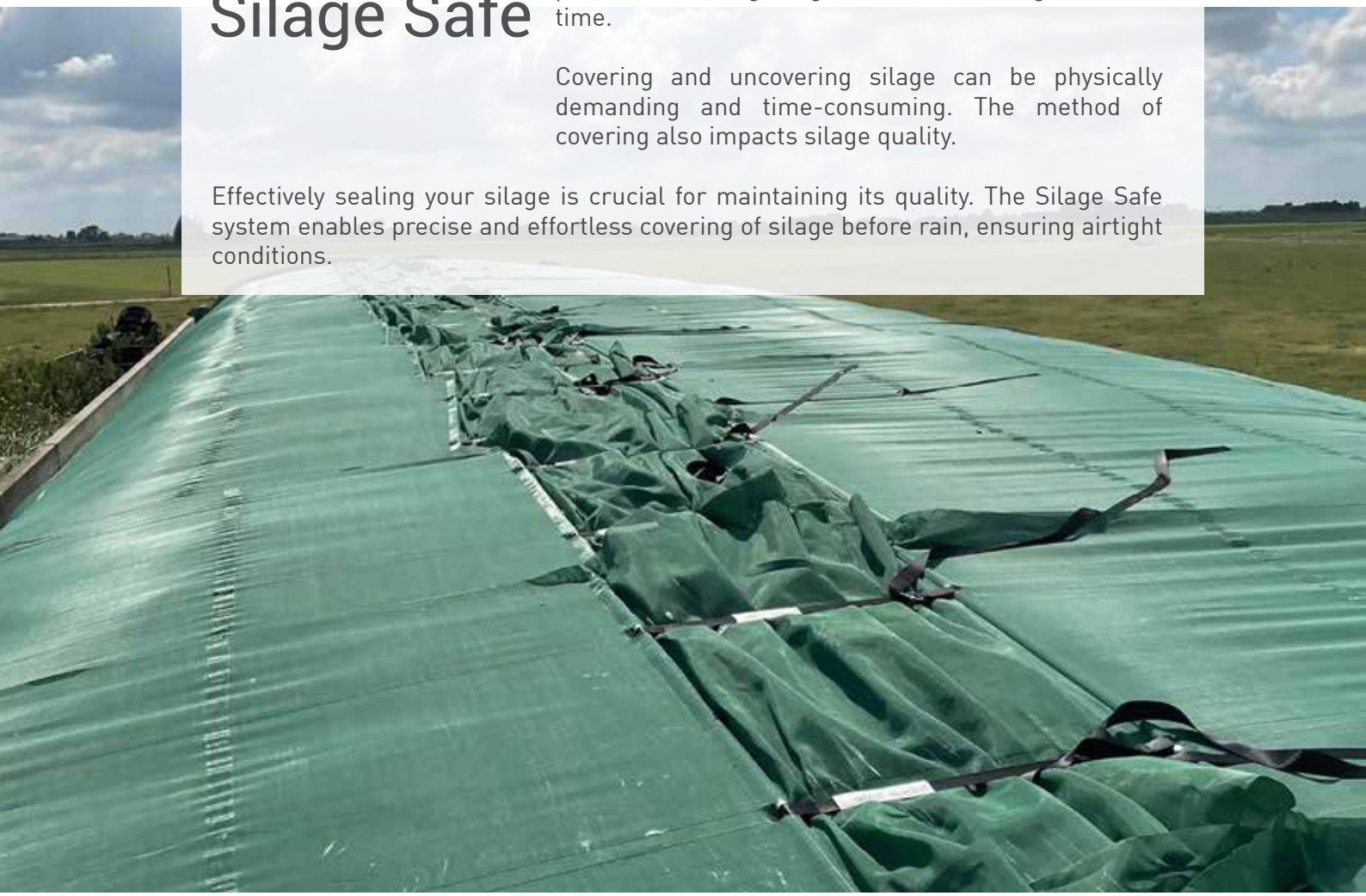
THE MANUAL FEED COVER SYSTEM SILAGE SAFE

Silage Safe

The innovative Silage Safe cover system simplifies the process of moving silage in and out, saving labor and time.

Covering and uncovering silage can be physically demanding and time-consuming. The method of covering also impacts silage quality.

Effectively sealing your silage is crucial for maintaining its quality. The Silage Safe system enables precise and effortless covering of silage before rain, ensuring airtight conditions.



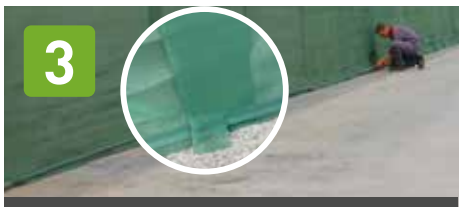
Silage Safe user manual



If the parts do not match the packing slip or if you have any questions about the installation, please contact CBS Beton.



In the rack (or box) are the drapes with straps separated from the drapes with the buckles.



Hang the drapes with the buckles over one wall and the drapes with the straps over the other wall. Start from the side of bottoming out. Check that the hems are on the side of the wall so that the straps and buckles are on the top.



The drapes have a fixed overlap of about 12.5 cm on both sides. Slide the PVC tubes together.



Put the plastic over the wall. Provide 10-20 cm of overlength on the floor. This will prevent water from reaching the pit.



Ensiling: Do this as round as possible for optimal tensile stress, with no room for oxygen. Have it well underway and start rounding in good time, not at the last minute!



Pull the plastic over the pit, followed by the drapes. Start on the side that is excavated last. If necessary, move the steel pipes to another edge that matches the pit height.



Connect all the tension straps to the buckles and pull the cloths tight.

If needed, use the tensioner later to tighten the drapes further. Thread the strap through the opening between the roller of the tensioner and the plate underneath. Place the base of the tensioner behind the metal pipe and pull the tensioner towards you. Repeat until it is tight.

If necessary, retighten after a few weeks.



Connect the two red PVC pipes to the gray PVC pipes at the pit entrance for marking and rainwater drainage.



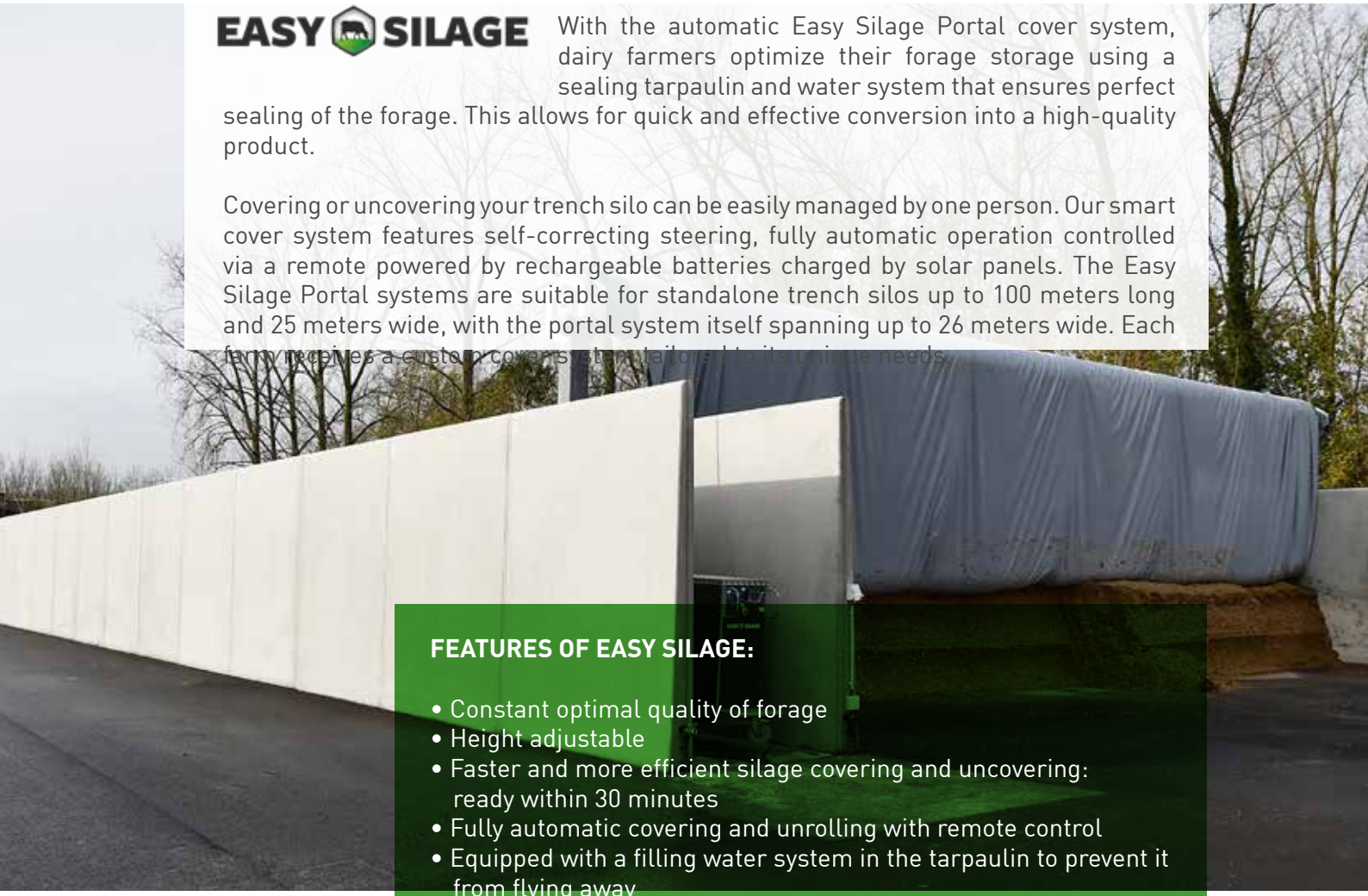
A beautiful covered trench silo.

THE AUTOMATIC FORAGE COVER SYSTEM EASY SILAGE

EASY SILAGE

With the automatic Easy Silage Portal cover system, dairy farmers optimize their forage storage using a sealing tarpaulin and water system that ensures perfect sealing of the forage. This allows for quick and effective conversion into a high-quality product.

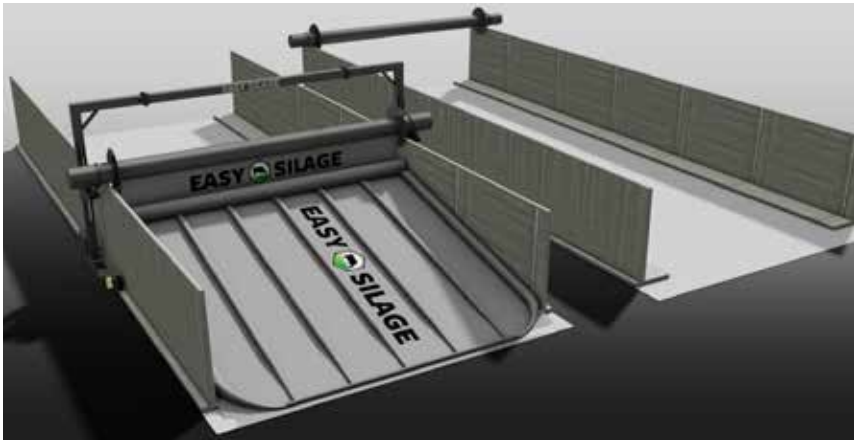
Covering or uncovering your trench silo can be easily managed by one person. Our smart cover system features self-correcting steering, fully automatic operation controlled via a remote powered by rechargeable batteries charged by solar panels. The Easy Silage Portal systems are suitable for standalone trench silos up to 100 meters long and 25 meters wide, with the portal system itself spanning up to 26 meters wide. Each farm receives a custom cover system tailored to its unique needs.



FEATURES OF EASY SILAGE:

- Constant optimal quality of forage
- Height adjustable
- Faster and more efficient silage covering and uncovering: ready within 30 minutes
- Fully automatic covering and unrolling with remote control
- Equipped with a filling water system in the tarpaulin to prevent it from flying away
- Cost-saving in labor and materials
- Return on investment within 5 years
- CE certified

4 types of solutions



When multiple **silos are adjacent to each other**, using the **portal system with a switchable roller** is ideal. This system is suitable for silos with a **maximum width of 17 meters**. It allows the farmer to operate the silo being unloaded and the silo being filled simultaneously with one machine. There should be at least **1.5 meters of space between the silos** to accommodate the cover machine driving along the silo walls.

1) Portal system

The portal system is designed for silos with a width of up to 26 meters. The machine operates alongside the silo walls. Standard features include LED lighting, steering correction, and CE certification



2) Portal system with switchable roller

This innovative system is tailored for dairy farmers with multiple silos, accommodating silos up to a maximum width of 17 meters. With this setup, farmers can operate both the silo they are unloading from and the silo they intend to fill simultaneously using a single machine.



3) Railsystem

The rail system runs in a channel along the silo wall and is mounted using special brackets, which necessitate the silo walls to be at least 20 cm thick. Additionally, the machine's height can be adjusted, enabling it to drive under the roller during silo filling.



4) Nicolaes D.drive

The entire power unit of the machine can be fully disconnected and used for multiple portals. The unit (dolly) includes all necessary components for driving and controlling the machine. This dolly can be easily attached and detached by one person and moved from one silo to another with ease.



CASE STUDIES



















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We would like to point out that the information and notes in this technical catalog do not constitute a complete and definitive description. Rather, they are intended as supplementary to the generally recognized rules of construction technology that the expert user must observe and as an explanation of the installation and use of our products. Furthermore, we would like to emphasize that our products should only be used and installed by competent individuals, and special attention should be given to the proper handling and storage of our goods. We are always available to assist you with the necessary advice and tips.

06/02/2025