

BOSCH[®] BETON

QUALITY FROM THE MARKET LEADER

- since 1968 -



More than 20,000 silage clamps manufactured and placed





On 1 June 2019 retaining wall manufacturer Bosch Beton relocated its entire operations to its new state-of-the-art factory in Barneveld, just off the A1 motorway. These new premises have been constructed using sustainable materials, including recycled products, and are equipped with all manner of sustainable installations. With the opening of its new factory the market leader has also increased its production capacity. To make this possible, the entire production process has been optimised, which means Bosch Beton is ready to respond to the rising demand on the market and satisfy all the associated requirements. In short, Bosch Beton is fit for the future!



A genuine, close-knit FAMILY COMPANY

Bosch Beton was founded by Gert and Gerrie van den Bosch. In 1968 they started manufacturing cattle grids on a small scale at their farm in Kootwijkerbroek. Later, in around 1980, Gert van den Bosch was looking for a solution to store silage for his own livestock. He came up with a product to meet his needs: the retaining wall. This made it possible to create a storage system for forage quickly and easily. It needed a catchy name and he christened it the 'sleufsilo' (silage clamp).

Silage clamps have been an important link in the chain for dairy farms for many years now. Good forage preservation goes a long way to determining a dairy farm's success – and that is part of our family company's DNA.

The advice and expertise we offer therefore cover much more than 'concrete' alone. Using a silage clamp correctly minimises forage losses and optimises milk production. On average, our silage clamp will pay for itself within 2 to 3 years. Since 1980 the market leader Bosch Beton has manufactured more than 20,000 silage clamps across Western Europe.

With the second generation having been closely involved in the business for some time now, Bosch Beton remains very much a family company. Why do we think this is important? Because it guarantees the continuity of our business, within which our farming background and commitment are key factors. A perfect product combined with honest, expert advice for you as the customer – that's what it's all about!

Thanks to our background we have a good feel for the market. We understand what is happening on the ground, which means we can continue to optimise and innovate. We are now recognised as a sustainable manufacturer and were the first company in the world in our sector to obtain the CSC sustainability certificate. That's what you can expect from us as the market leader!

Brechtje van den Beuken-Van den Bosch
Gerard van den Bosch
Henk Hop



Forage preservation

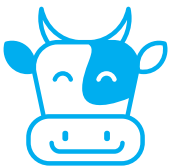
get the most from your silage clamp



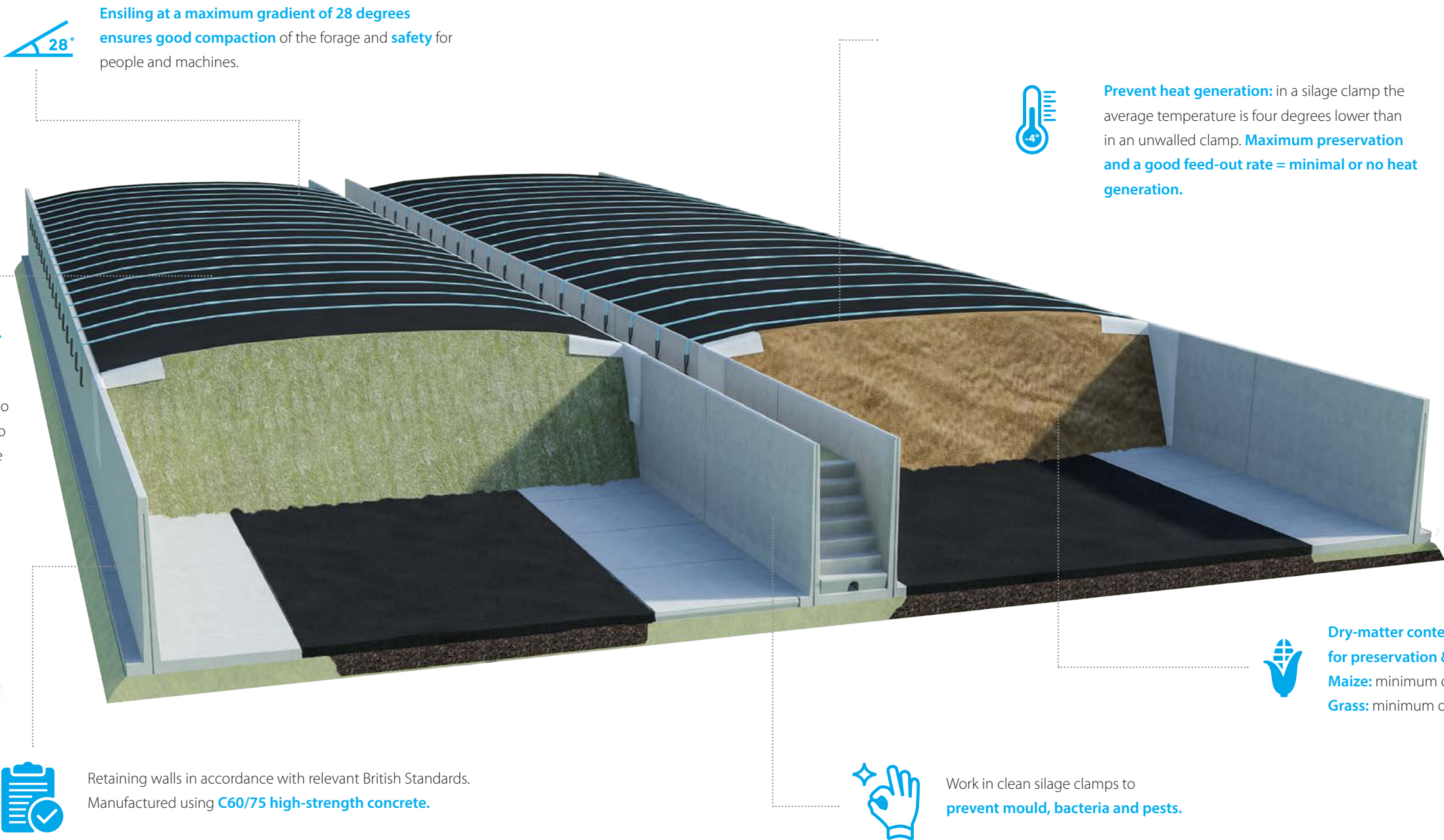
With silage clamps you can achieve or even **exceed 1000 milk feed units per kg/DM** in your forage.



A silage clamp can immediately reduce your forage losses and allow an average dairy farm to **save at least £5000** a year.

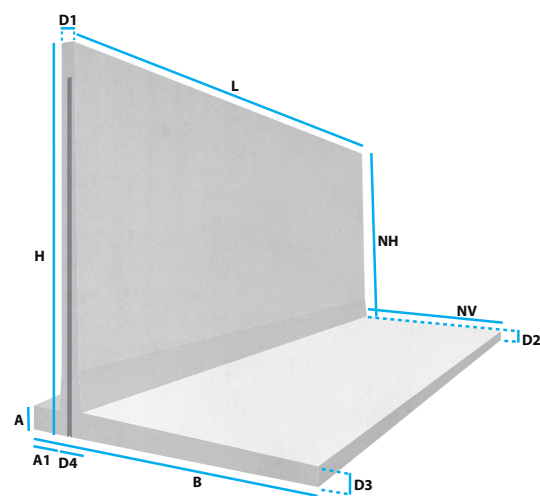


Optimise your milk production: good forage helps you achieve higher and better milk production and can result in up to **three litres of extra milk per day per cow**.



THE BOSCH BETON

range



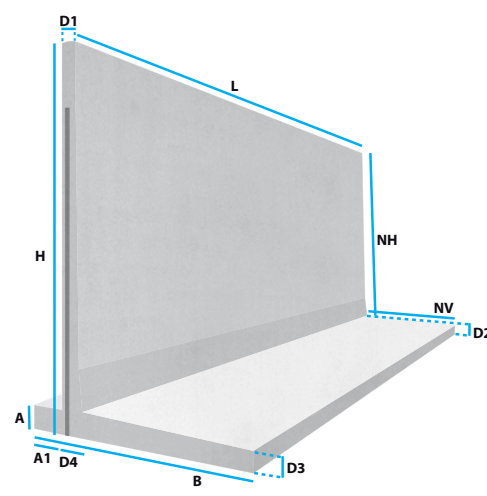
EXTERNAL WALL

SELF-SUPPORTING WALL



- ✓ Suitable for heavy axle load
- ✓ No soil embankment required due to extra-long-foot
- ✓ Suitable in particular for taller silage clamps

Type	H	L	B	NV	NH	D1	D2	D3	D4	A	A1	kg
LA100V	1150	3995	1430	1050	1000	125	150	140	180	148	200	3275
LA125V	1400	3995	1580	1200	1250	125	150	140	180	148	200	3810
LA150V	1650	3995	1680	1300	1500	125	150	140	180	148	200	4280
LA175V	1910	3995	1950	1550	1750	125	160	140	200	157	200	5270
LA200V	2160	3995	2070	1650	2000	125	160	140	220	157	200	6010
LA250V	2710	3995	2310	1850	2500	125	210	170	260	206	200	8460
LA300V	3245	2495	2700	2100	3000	125	245	180	300	236	300	7020
LA400V	4350	2495	3300	2600	4000	125	350	190	360	330	340	11220



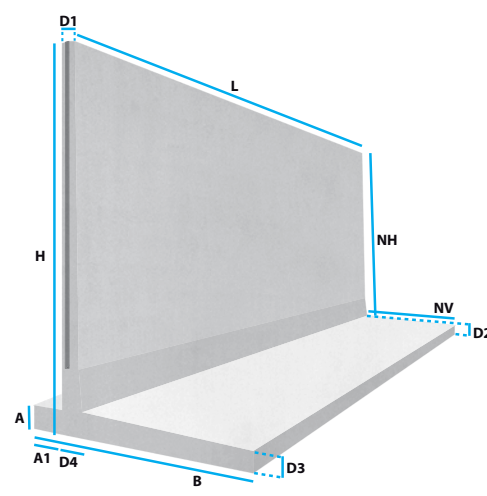
EXTERNAL WALL

SELF-SUPPORTING WALL



- ✓ Suitable for heavy axle load
- ✓ Ideal in combination with a soil embankment for a 20-tonne axle load
- ✓ Suitable in particular for taller silage clamps

Type	H	L	B	NV	NH	D1	D2	D3	D4	A	A1	kg
LA150G	1650	3995	1180	800	1500	125	150	144	180	148	200	3595
LA175G	1910	3995	1400	1000	1750	125	160	147	200	157	200	4505
LA200G	2160	3995	1470	1050	2000	125	160	147	220	157	200	5200
LA250G	2710	3995	1710	1250	2500	125	210	183	260	206	200	7465
LA300G	3245	2495	2100	1500	3000	125	245	199	300	236	300	6330
LA400G	4350	2495	2800	2100	4000	125	350	222	360	330	340	10595



EXTERNAL WALL

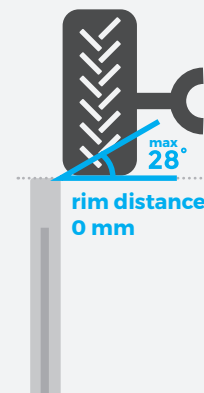
SELF-SUPPORTING WALL



- ✓ Suitable for smaller and lower silage clamps
- ✓ In combination with a soil embankment suitable for a 15-tonne axle load
- ✓ Also ideal for manure storage and bulk deliveries

Type	H	L	B	NV	NH	D1	D2	D3	D4	A	A1	kg
L050hak	500	3995	600	285	410	85	90	83	115	90	200	890
L075hak	750	3995	800	488	659	85	91	83	112	90	200	1220
L100hak	1000	3995	800	489	909	85	91	83	111	90	200	1425
L125hak	1250	3995	900	577	1148	85	102	92	123	100	200	1860
L150hak	1500	3995	1050	716	1387	85	113	94	134	110	200	2395
L175hak	1750	3995	1200	850	1620	90	130	98	150	125	200	3060
L200hak	2000	3995	1350	985	1855	100	146	101	165	140	200	3835
L225hak	2250	3995	1500	1113	2085	100	165	120	187	165	200	4820
L250hak	2500	3995	1600	1200	2322	100	178	136	200	170	200	5655
L300hak	3000	3995	1900	1467	2775	100	225	144	233	200	200	7850
L350hak	3500	2495	2050	1590	3245	100	255	149	260	220	200	5930
L400hak	4000	2495	2450	1810	3731	100	269	150	290	229	350	7375

* Walls up to 300 cm also available with length of 1990 mm, except L225hak.



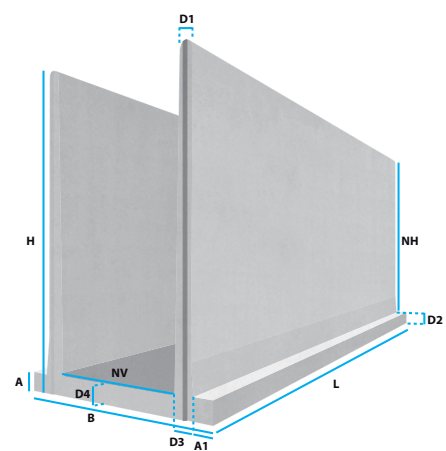
Axle load & safety distance

The minimum axle load needed to achieve good compaction of forage in a silage clamp is 7.5 tonnes per axle. That means the minimum vehicle weight is 15 tonnes. The Netherlands is the first country where a safety distance is prohibited for retaining walls with an agricultural application (in accordance with BRL 2812 'Agricultural Concrete Products'). It is crucial that you can drive and compact right into the corners of the silage clamp. The structural calculations for retaining walls therefore need to take this into account.

Please note: you are purchasing a 'structural' concrete product. It is therefore important to have absolute certainty that the product is safe and suitable for the application in question.

At Bosch Beton we helped bring about the prohibition of safety distances for silage-clamp walls in the Netherlands, ensuring that people and machines stay safe when driving on the forage in the silage clamp. Bosch Beton therefore offers you a warranty of up to 20 years against breakage.



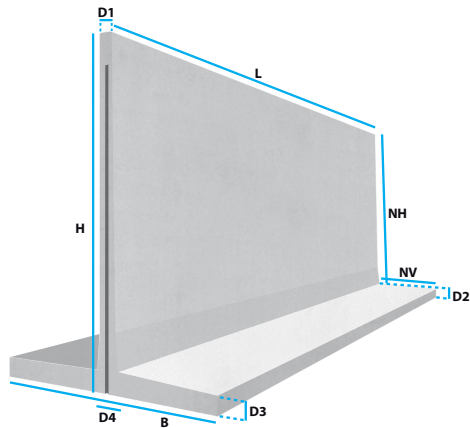


PARTITIONING WALL U WALL



- Can bear loads on either side independently
- Space in the U wall can also be used as walkway
- Space in the U wall carries off rainwater

Type	H	L	B	NV	NH	D1	D2	D3	D4	A	A1	kg
U100	1165	3995	1250	1006	1165	100	-	122	140	-	-	3780
U125	1415	3995	1250	994	1415	100	-	128	140	-	-	4360
U150hak	1680	3995	1450	982	1532	100	140	154	140	140	80	5435
U175hak	1930	3995	1450	972	1782	100	140	159	140	140	80	6085
U200hak	2190	3995	1550	970	2050	100	140	160	140	140	130	6795
U250hak	2690	3995	1900	1188	2540	100	150	176	150	150	180	8890
U300hak	3190	3995	2150	1418	3020	100	170	186	170	160	180	11420

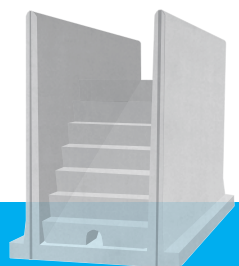


PARTITIONING WALL T WALL

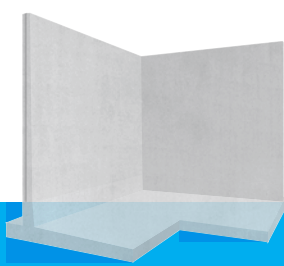


- Can bear loads on either side independently
- Space-saving
- Can also be used as an external wall

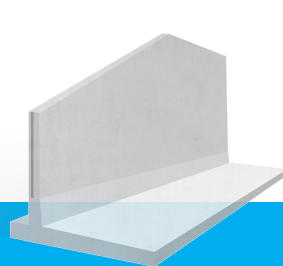
Type	H	L	B	NV	NH	D1	D2	D3	D4	kg
TWA100	1150	3995	1280	550	1000	125	150	145	180	3100
TWA125	1400	3995	1480	650	1250	125	150	145	180	3685
TWA150	1650	3995	1680	750	1500	125	150	144	180	4325
TWA175	1910	3995	1900	850	1750	125	160	149	200	5260
TWA200	2160	3995	2020	900	2000	125	160	140	220	5920
TWA250	2710	3995	2260	1000	2500	125	210	188	260	8410
TWA300	3245	2495	2600	1150	3000	125	245	180	300	6850
TWA400	4350	2495	3100	1370	4000	125	350	190	360	10775



Thanks to the steps in the U retaining wall you can easily walk along your silage clamp at height. The steps are available separately.



Virtually any desired angle is possible. We can mitre-cut the walls or use fixed corner elements.



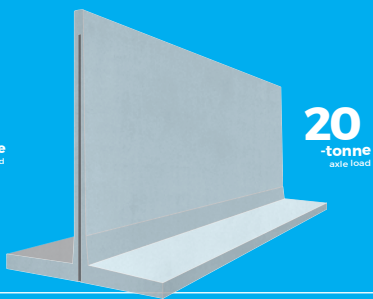
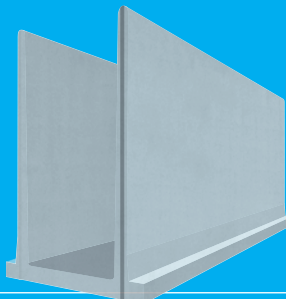
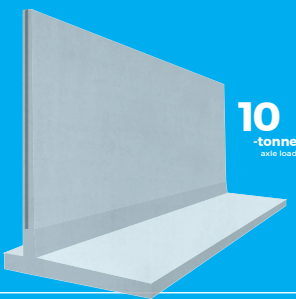
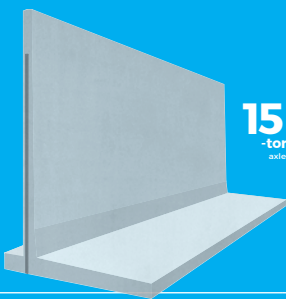
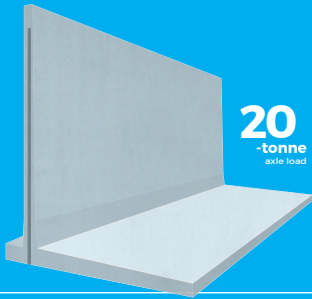
Silage-clamp walls can be bevelled on request. The cutting line runs from the halfway point of the height to the halfway point of the length as standard. Custom solutions are possible!



Other dimensions available on request.

IMPRESSIVE

range



External wall

20 tonnes | self-supporting | LAV

External wall

15 tonnes | self-supporting | LAG

External wall

10 tonnes | self-supporting | L

Partitioning wall

15 tonnes | self-supporting | U

Partitioning wall

20 tonnes | self-supporting | T

Minimum height	100 cm	150 cm	50 cm
Maximum height	400 cm	400 cm	600 cm
Height = net fill	Yes	Yes	No, minus foot thickness
Exposure class	Highest chemical class DC-4z	Highest chemical class DC-4z	Highest chemical class DC-4z
Concrete quality	C60/75 high-strength concrete	C60/75 high-strength concrete	C60/75 high-strength concrete
Certification	CE, Güteschutz, KOMO, CSC	CE, Güteschutz, KOMO, CSC	CE, Güteschutz, KOMO, CSC
Warranty	20-year manufacturer's warranty	20-year manufacturer's warranty	15-year manufacturer's warranty
Load self-supporting	20-tonne axle load	15-tonne axle load	10-tonne axle load
Load soil embankment	20-tonne axle load	20-tonne axle load	15-tonne axle load
Concrete surface	Very dense and smooth (appearance class A/B1)	Very dense and smooth (appearance class A/B1)	Very dense and smooth (appearance class A/B1)
Connections	Round plastic coupling slat	Round plastic coupling slat	Round plastic coupling slat
Slightly bevelled foot	Yes	Yes	Yes

100 cm	100 cm
300 cm	400 cm
Yes	Yes
Highest chemical class DC-4z	Highest chemical class DC-4z
C60/75 high-strength concrete	C60/75 high-strength concrete
CE, Güteschutz, KOMO, CSC	CE, Güteschutz, KOMO, CSC
15-year manufacturer's warranty	20-year manufacturer's warranty
15-tonne axle load 75% fill necessary	20-tonne axle load
n/a	n/a
Very dense and smooth (appearance class A/B1)	Very dense and smooth (appearance class A/B1)
Round plastic coupling slat	Round plastic coupling slat
n/a	Yes



UNIQUE QUALITIES of Bosch Beton



FAMILY COMPANY FOR 50 YEARS

Bosch Beton is a genuine family company. We have been serving the agricultural market, in which our business has its roots, for the past 50 years. Today we are active in five different countries and the market leader when it comes to retaining walls.



LARGE STOCK

We hold at least 5,000 retaining walls in stock at all times to ensure cured elements can be delivered at the right time.



PARTNER OF THE FARMER

Besides having a thorough knowledge of silage clamps, we also understand the importance of forage preservation and its impact on milk production. In short, we help you get the most from your silage clamp.

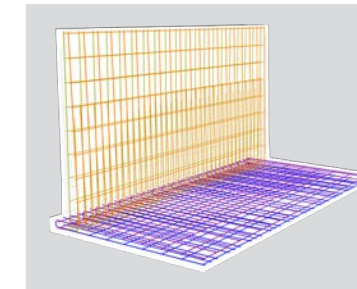


RAPID DELIVERY

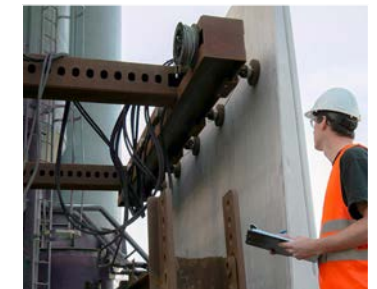
Silage clamps are always delivered in their entirety and immediately placed in position. That means your silage clamp is ready to use straight away.



All our silage-clamp walls are certified according to: CE, Güteschutz, KOMO and CSC. They comply with the rigorous exposure class **DC-4z**.



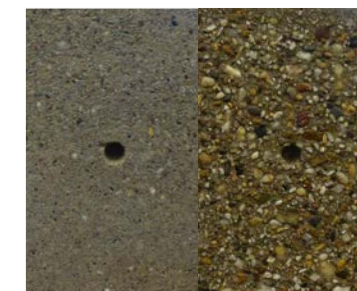
All our silage-clamp walls are constructed entirely **in accordance with the applicable European standards** (Euro-code) and **British Standards** to ensure long life and safe usage.



Bosch Beton is the only retaining-wall manufacturer to test its products on a test rig in collaboration with the dutch certification body KIWA.



Safe and compact ensiling up to the rim with an axle load up to 20 tonnes. This is responsible from a structural perspective and **crucial to achieve good forage preservation**.



Extremely long life thanks to use of C60/75 high-strength concrete. This high-strength concrete corrodes one and a half times less quickly than an average C35/40 concrete quality, for example.



A perfect product combined with honest, expert advice, on site. We not only know about 'concrete', but also understand the importance of maximising your forage preservation.



One of the World's 1st Certified Companies CONCRETE SUSTAINABILITY COUNCIL

In 2017 Bosch Beton became the **world's first retaining-wall manufacturer** to be awarded the CSC Bronze certificate. CSC is the acronym of the Concrete Sustainability Council, an organisation that promotes **sustainable concrete manufacturing**. This global quality mark is regarded as the standard for responsible and sustainable

manufacturing and operations. It comprises the following levels: bronze, silver, gold and platinum. In April 2019 Bosch Beton took the next step and achieved the **CSC gold certificate**. Bosch Beton therefore continues to innovate sustainably.

For more information please visit:
www.concretesustainabilitycouncil.com



QUALITY IS ON THE INSIDE

and we bring it out!

- Gerard van den Bosch -





PREPARATION

of a suitable sand bedding by your contractor



STEP 1: Excavate

To create a good foundation, the soil (under the future trench silo) must be excavated. The depth depends on the quality and the type of substrate. It is best to coordinate this with your contractor in advance. The future slope should already be taken into account.



STEP 2: Apply gravel

If soil improvement is implemented, gravel can be applied and compacted after the upper soil layer has been removed. This must be built up in layers (max. 20 cm thickness per layer).



STEP 3: Apply layer of sand

A thin layer of sand must now be applied on top of the gravel (at least 5 cm). This layer of sand must be leveled by means of a laser-controlled grading box. If it is possible to work directly on the substrate, an additional layer of crusher sand could be applied first.



STEP 4: Set up a line

After levelling the top layer, you or your contractor must set up a line in accordance with the sketch. This tells our placement coordinator or truck driver where the elements need to be placed. It is important that the line is set out no more than 10cm above the ground and 2cm from the foot of the retaining wall. In order to set out a straight line it is best to stretch the line between a maximum of 2 posts, one post on either end of the bedding.



STEP 5: Silage clamp placement




After the sand bed has been finished, the concrete slabs are placed first (when applicable). The retaining walls are then placed along the slabs. The access route and construction site must be sufficiently accessible for a 3-axle (rigid) trailer. Please note: during the installation you must provide 1 to 2 people who can provide professional assistance on site at the instruction of the placement coordinator or truck driver!

This step-by-step plan has been composed to ensure that the deliveries and placements of the retaining walls run smoothly. These steps must all be carried out before delivery of the silage clamp elements.



Bosch Beton panels
**GET OUR THUMBS
UP EVERY DAY OF
THE WEEK.**

Lucy Bilings
project manager
AD project in Kent, UK

-  2.7 MW gas to grid
Anerobic Digestion plant
-  LAV & TWA retaining walls
-  Realization in cooperation
with ARK Agriculture Ltd



“ I have to say, absolutely everyone
that comes to site compliments
the silage clamps, whether
they're farmers, gas people or
something completely different'
And they're even more impressed
when they hear they took less
than 4 days to install. ”





YOUR TECHNICAL ADVISOR

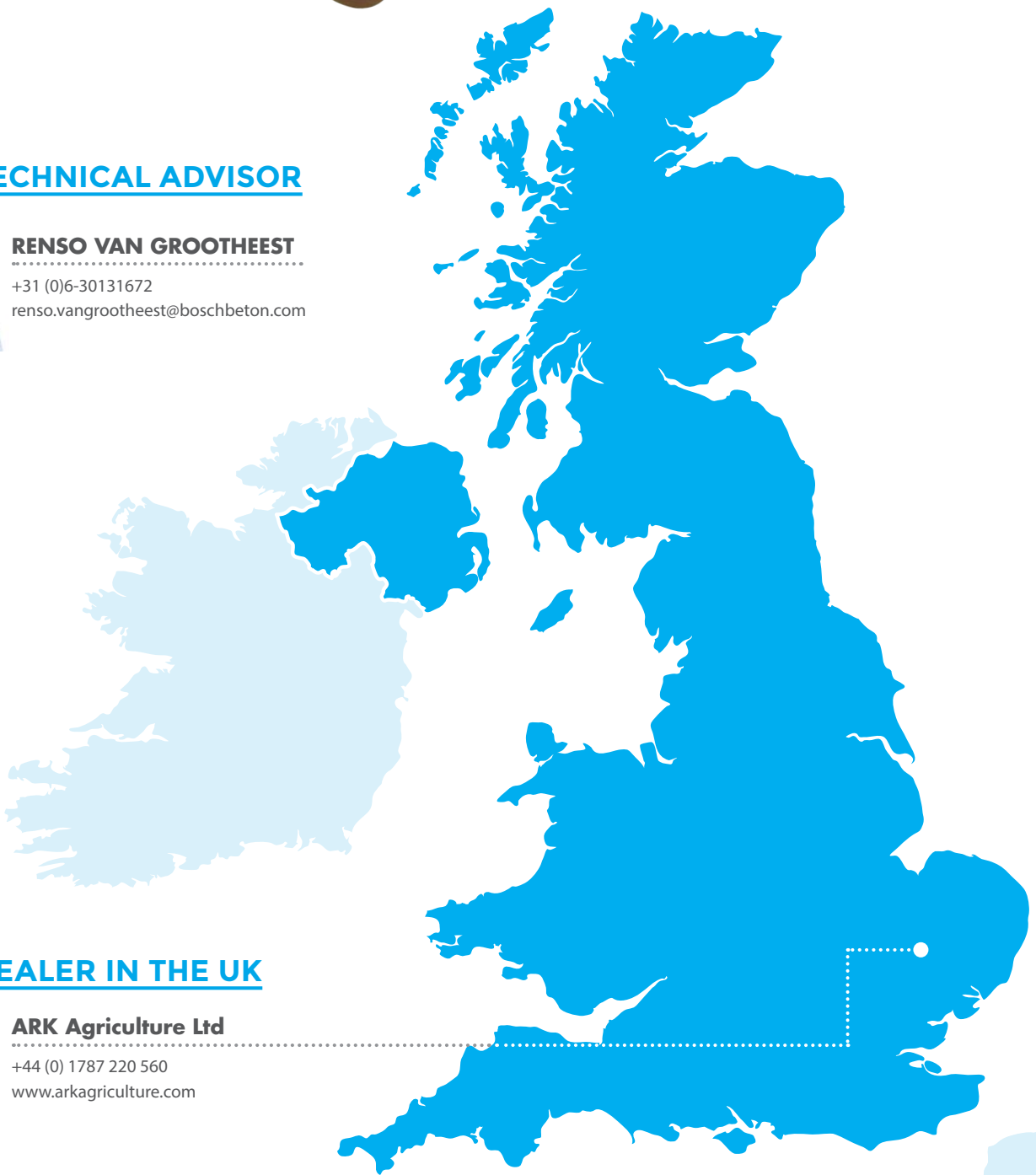


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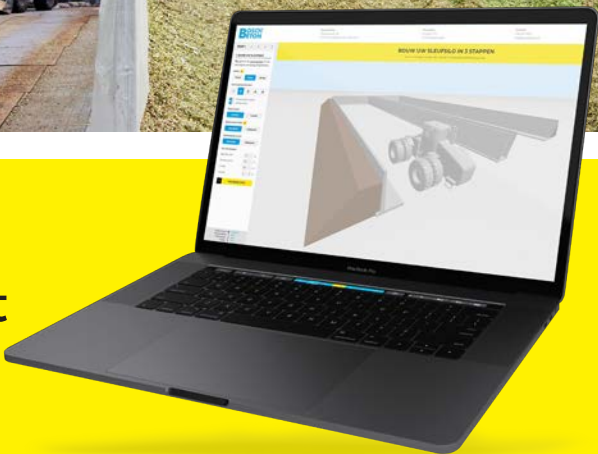
YOUR DEALER IN THE UK



ARK Agriculture Ltd
+44 (0) 1787 220 560
www.arkagriculture.com



Build your silage clamp at
MYSILAGECLAMP.CO.UK



For sales outside the UK, please contact Bosch Beton.

A PERFECT PRODUCT
combined with honest, expert advice –
THAT'S WHAT IT'S ALL ABOUT!

Gert van den Bosch
founder Bosch Beton

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