eurobent

KEEP ROLLING

LOGISTIC MANUAL

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SCOPE

01

1. SCOPE

Our company's priority is to comprehensively meet our customers' expectations, where one of the requirements is to deliver the material to the indicated place at the required time. That is why Eurobent Sp. z o.o. has a qualified Logistics Department, that organises transport services in our country and abroad. We cooperate with many transport companies with extensive experience in forwarding, organisation of transport processes and logistics issues.

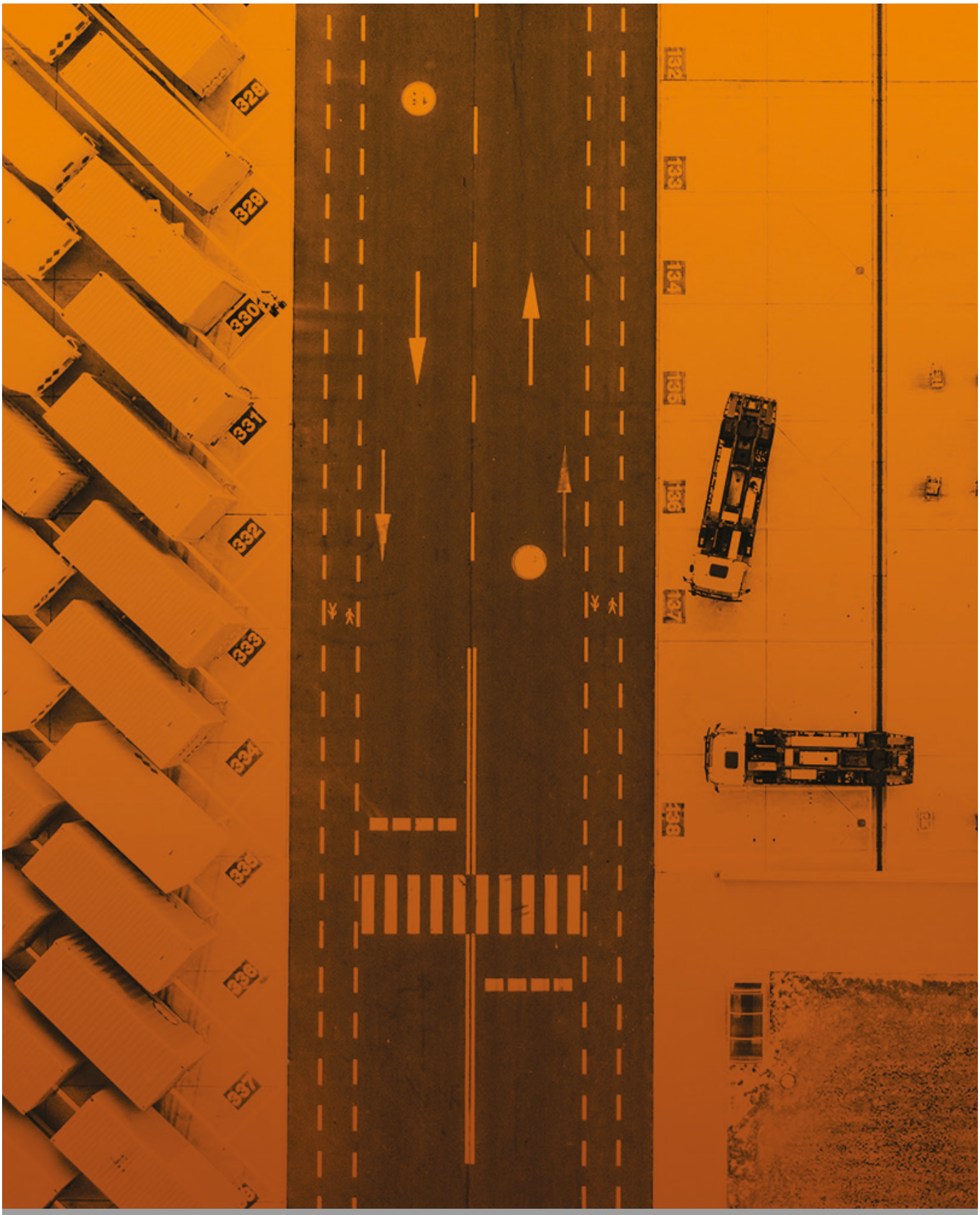
SCOPE

LOADING DETAILS

02

2. LOADING DETAILS

Loading in Eurobent Sp. z o.o. takes place from 8:00 a.m. to 3:00 p.m.
Address for loading: Eurobent Sp. z o.o., Kliczkowska 42, 58-100 Świdnica Tel: +48 74 852 13 19



LOADING DETAILS

INCOTERMS

03

3. INCOTERMS

Shipments at Eurobent Sp. z o.o. take place on the basis of:

1. The International Commercial Rules developed by the International Chamber of Commerce - INCOTERMS 2010
2. The Convention on the International Carriage of Goods

MAIN INCOTERM CONDITIONS

FREIGHT COLLECT TREMS					FREIGHT PREPAID TREMS						
											
INCOTERM	**EXW** EX Works (Place)	**FCA** Free Carrier (Place)	**FAS** Free Along Ship (Port)	**FOB** Free on Board (Port)	**CFR** Cost and Freight (Port)	**CIF** Cost Insurance and Freight (Port)	**CPT** Carriage Paid to (Place)	**CIP** Carriage and Insurance Paid to (Place)	**DAT** Delivered at Terminal (Place / Port)	**DAP** Delivered at Place (Place)	**DDP** Delivered Duty Paid (Place)
OBLIGATIONS AND CHARGES											
Warehouse Services	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Export Packing	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Loading at point of origin	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Origin Inland Freight	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Origin Port Charges	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Origin Forwarder Fees	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Ocean / Air Freight	Buyer	Buyer	Buyer	Buyer	Seller	Seller	Seller	Seller	Seller	Seller	Seller
Destination Port Charges	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Seller	Seller	Seller
Customs Clearance	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Seller
Custom GST / Duties	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Seller
Delivery Cartage to Final Destination	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Buyer	Seller	Seller

INCOTERMS

STANDARD MEANS OF TRANSPORT

04

4. STANDARD MEANS OF TRANSPORT

Standard trailer:

- Length: 13,6m
- Width: 2,45m
- Height: 2,6m
- Load capacity: 24 000 kg

20’ DV container (internal dimensions):

- Length 5,9 m
- Width 2,35 m
- Height 2,39 m
- Capacity: 32,3 m3
- Load capacity: 22 000 kg

40’ DV container (internal dimensions):

- Length: 12,00 m
- Width: 2,35 m
- Height: 2,39 m
- Capacity: 67,3 m3
- Load capacity: 24 000 kg

40’ HC container (internal dimensions):

- Length: 12,00 m
- Width: 2,35 m
- Height: 2,70 m
- Capacity: 76,3 m3
- Load capacity: 24 000 kg

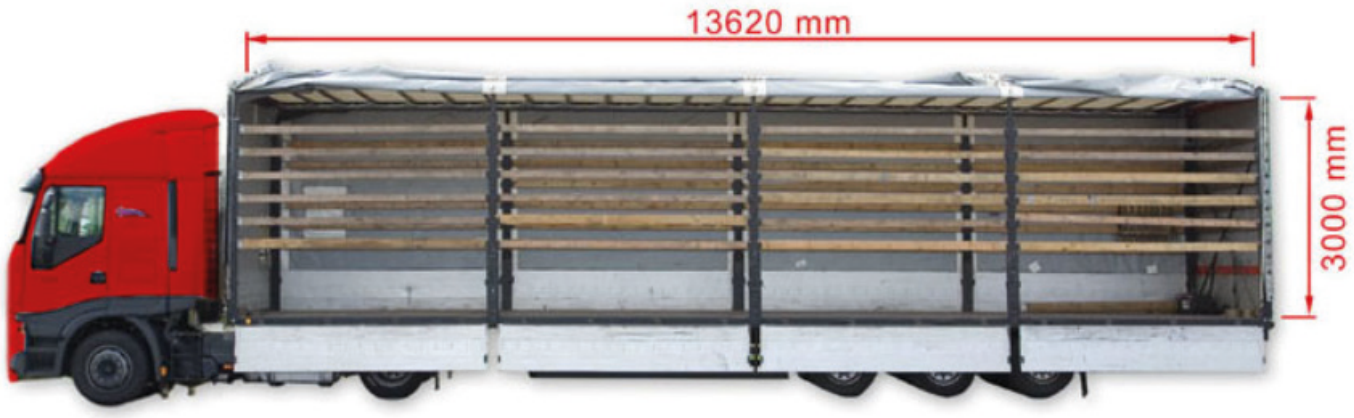
* Actual loading weight depends on destination

SIDEWAY LOADING ROLLS ONTO THE TRUCK

05

5. SIDEWAY LOADING ROLLS ONTO THE TRUCK

The most popular type of loading of the rolls onto the truck is sideways loading, means along the side of the truck (curtainsider). Loading in this way is possible in case of a curtain, which is moved aside for this purpose, or a tarpaulin, which is lifted.



EQUIPMENT NEEDED FOR LOADING ROLLS ONTO THE TRUCK

06

6. EQUIPMENT NEEDED FOR LOADING ROLLS ONTO THE TRUCK

Each roll is equipped with a set of two belts.

For on-site handling and loading the rolls to the truck Eurobent Sp. z o.o. uses forklift specially fitted with a carpet pole attachment (stinger).

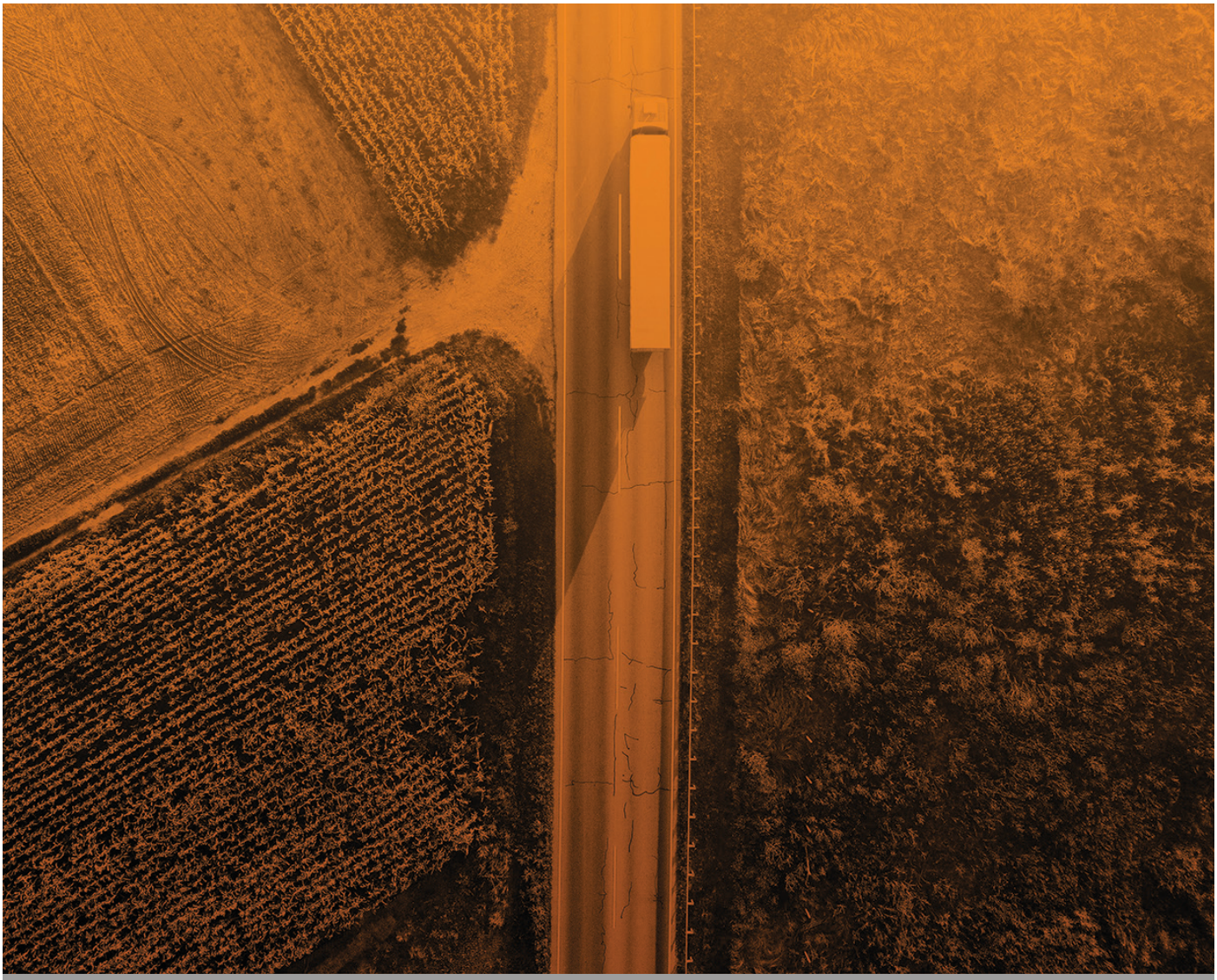
PILED POSITION OF THE ROLLS ON THE TRUCK

07

7. PILED POSITION OF THE ROLLS ON THE TRUCK

Rolls of bentonite mat are placed in the trailer in the shape of a cone.

Before the truck moves, the driver should check if the loading straps are not loose, as this can result in the material displacement inside the trailer.



PILED POSITION OF THE ROLLS ON THE TRUCK

LOADING SAFETY BELTS

08

8. LOADING SAFETY BELTS

Each layer of rolls in the pile is fastened with separate loading safety belts.

The required amount of loading belts is min. 16 pcs. The exact number of loading belts depends on the requirements of the loading and should be consulted with Eurobent's Logistic Department.

If the driver has not sufficient amount of the loading belts the material cannot be loaded.

The most common loading capacities of rolls for standard trailers

EUROBENT GCL loading data

	roll dimensions		sqm of a roll	roll min. weight	Trailer 24 tons- without overlap area		Trailer 24 tons- with overlap area		Trailer 22 tons- without overlap area		Trailer 22 tons- with overlap area	
Product	width (m)	lenght (mb)	(m2)	(kg.)	rolls / truck	sqm	rolls / truck	sqm	rolls / truck	sqm	rolls / truck	sqm
EB 2500	5,1	35,0	178,5	0,5931	38	6783	39	6961,5	35	6247,5	36	6426
	5,1	40,0	204	0,676	34	6936	34	6936	31	6324	31	6324
	5,1	45,0	229,5	0,7589	30	6885	31	7114,5	28	6426	28	6426
	5,1	50,0	255	0,8418	27	6885	28	7140	25	6375	25	6375
EB 3000	5,1	35,0	178,5	0,6824	33	5890,5	34	6069	30	5355	31	5533,5
	5,1	40,0	204	0,778	29	5916	30	6120	27	5508	27	5508
	5,1	45,0	229,5	0,8736	26	5967	26	5967	24	5508	24	5508
	5,1	50,0	255	0,9693	23	5865	24	6120	21	5355	22	5610
EB 3500	5,1	35,0	178,5	0,7716	29	5176,5	30	5355	27	4819,5	27	4819,5
	5,1	40,0	204	0,88	26	5304	26	5304	24	4896	24	4896
	5,1	45,0	229,5	0,9884	23	5278,5	24	5508	21	4819,5	22	5049
	5,1	50,0	255	1,0968	21	5355	21	5355	19	4845	19	4845
EB 4000	5,1	35,0	178,5	0,8609	26	4641	27	4819,5	24	4284	25	4462,5
	5,1	40,0	204	0,982	23	4692	24	4896	21	4284	22	4488
	5,1	45,0	229,5	1,1031	21	4819,5	21	4819,5	19	4360,5	19	4360,5
	5,1	50,0	255	1,2243	19	4845	19	4845	17	4335	17	4335
EB 4500	5,1	35,0	178,5	0,9501	24	4284	24	4284	21	3748,5	22	3927
	5,1	40,0	204	1,084	21	4284	21	4284	19	3876	20	4080
	5,1	45,0	229,5	1,2179	19	4360,5	19	4360,5	17	3901,5	17	3901,5
EB 4800	5,1	35,0	178,5	1,0037	23	4105,5	23	4105,5	21	3748,5	21	3748,5
	5,1	40,0	204	1,1452	20	4080	20	4080	18	3672	19	3876
	5,1	45,0	229,5	1,2867	18	4131	18	4131	16	3672	16	3672
EB 5000	5,1	35,0	178,5	1,0394	22	3927	22	3927	20	3570	20	3570
	5,1	40,0	204	1,186	19	3876	20	4080	18	3672	18	3672
EB 5500	5,1	35,0	178,5	1,1286	20	3570	20	3570	18	3213	19	3391,5
	5,1	40,0	204	1,288	18	3672	18	3672	16	3264	16	3264
EB 6000	5,1	35,0	178,5	1,2179	19	3391,5	19	3391,5	17	3034,5	17	3034,5

EUROBENT GCL CS loading data

	roll dimensions		sqm of a roll	roll min. weight	Trailer 24 tons- without overlap area		Trailer 24 tons- with overlap area		Trailer 22 tons- without overlap area		Trailer 22 tons- with overlap area	
Product	width (m)	lenght (mb)	(m2)	(kg.)	rolls / truck	sqm	rolls / truck	sqm	rolls / truck	sqm	rolls / truck	sqm
EB CS 0,2 (4000)	5,0	35	175	0,879	26	4550	26	4550	24	4200	24	4200
	5,0	40,0	200	1,003	23	4600	23	4600	21	4200	21	4200
	5,0	45,0	225	1,1267	20	4500	21	4725	19	4275	19	4275
EB CS 0,2 (4500)	5,0	35,0	175	0,966	24	4200	24	4200	22	3850	22	3850
	5,0	40,0	200	1,103	21	4200	21	4200	19	3800	19	3800
	5,0	45,0	225	1,239	18	4050	18	4050	17	3825	17	3825
EB CS 0,2 (5000)	5,0	35,0	175	1,05425	22	3850	22	3850	20	3500	20	3500
	5,0	40	200	1,203	19	3800	19	3800	17	3400	18	3600
EB CS 0,6 (4000)	5,1	20,0	102	0,5587	41	4182	42	4284	38	3876	38	3876
	5,1	30,0	153	0,83155	27	4131	28	4284	25	3825	25	3825
	5,1	35,0	178,5	0,9679	24	4284	24	4284	22	3927	22	3927
EB CS 0,6 (4500)	5,1	20,0	102	0,6097	38	3876	38	3876	34	3468	35	3570
	5,1	30,0	153	0,908	25	3825	26	3978	23	3519	23	3519
	5,1	35,0	178,5	1,057	22	3927	22	3927	20	3570	20	3570
EB CS 0,6 (5000)	5,1	20,0	102	0,6607	34	3468	35	3570	31	3162	32	3264
	5,1	30,0	153	0,9845	23	3519	23	3519	21	3213	21	3213
	5,1	35,0	178,5	1,1465	20	3570	20	3570	18	3213	18	3213
EB CS 1,0 (4000)	5,1	20,0	102	0,5995	38	3876	39	3978	35	3570	36	3672
	5,1	30,0	153	0,8927	26	3978	26	3978	23	3519	24	3672
	5,1	35,0	178,5	1,0394	22	3927	22	3927	20	3570	20	3570
EB CS 1,0 (4500)	5,1	20,0	102	0,6505	35	3570	36	3672	32	3264	33	3366
	5,1	30,0	153	0,969	24	3672	24	3672	21	3213	22	3366
	5,1	35,0	178,5	1,1286	20	3570	20	3570	18	3213	19	3391,5
EB CS 1,0 (5000)	5,1	20,0	102	0,7015	33	3366	33	3366	30	3060	30	3060
	5,1	30,0	153	1,0457	25	3825	25	3825	20	3060	20	3060
	5,1	35,0	178,5	1,2179	19	3391,5	19	3391,5	17	3034,5	17	3034,5

LOADING OF SMALL ROLLS ON PALLETS ONTO THE TRUCK

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9. LOADING OF SMALL ROLLS ON PALLETS ONTO THE TRUCK

GCL - one 24 tons truck contains 22 pallets (120 x 120 cm) x 32 rolls (1,15x5,10)
TILTEX - one 24 tons truck contains 36 pallets (120 x 100 cm) x 12 rolls (1,0x5,00

Bentonite bags are placed on pallets 120 x 80 cm.

On special request we can load materials on pallets with different dimensions. There is also possibility to use fumigated pallets if needed.

LOADING OF SMALL ROLLS ON PALLETS ONTO THE TRUCK

EQUIPMENT NEEDED FOR LOADING AND UNLOADING ROLLS FROM THE CONTAINER

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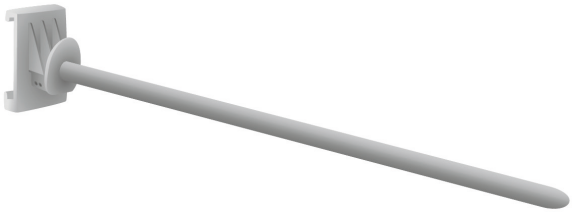
10. EQUIPMENT NEEDED FOR LOADING AND UNLOADING ROLLS FROM THE CONTAINER

The loading of the bentonite mat rolls into the container is carried out by means of a forklift with a carpet pole with a maximum lifting capacity: 1,5 ton.



LOADING OF SMALL ROLLS ON PALLETS INTO CONTAINER

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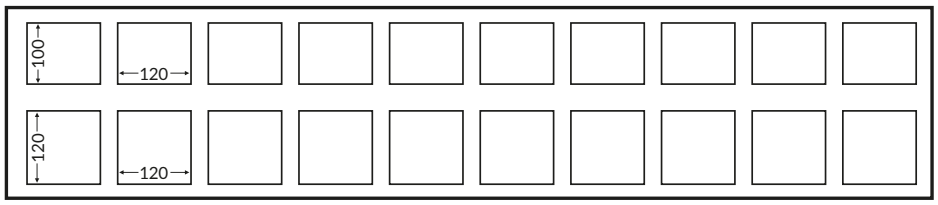
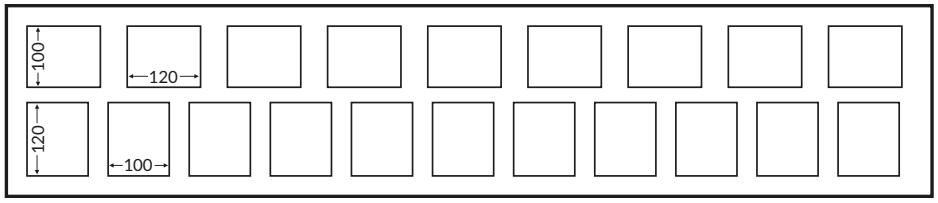
11. LOADING OF SMALL ROLLS ON PALLETS INTO CONTAINER

40’ Container

GCL
10 pallets (120 cm x 100 cm) x 25 rolls + 10 pallets (120 cm x 120 cm) x 32 rolls

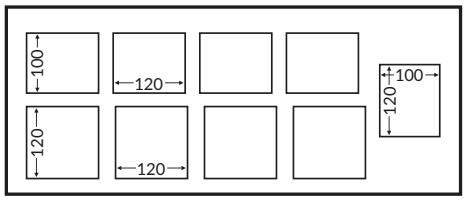


TILTEX
20 pallets (120 cm x 100 cm) x 12 rolls

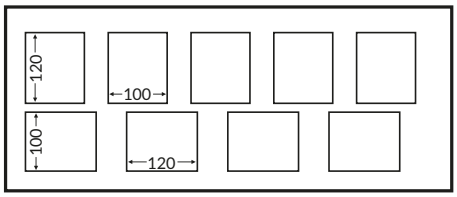


20’ Container

GCL
5 pallets (120 cm x 100 cm) x 25 rolls + 4 pallets (120 cm x 120 cm) x 32 rolls



TILTEX
9 pallets (120 cm x 100 cm) x 12 rolls



LOADING OF SMALL ROLLS ON PALLETS INTO CONTAINER

INSTRUCTIONS FOR DRIVERS

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12. INSTRUCTIONS FOR DRIVERS:

On the premises of Eurobent the driver should behave in a cultural manner. Smoking is forbidden on the premises and waste must be sorted. Eurobent Sp. z o.o. has implemented and complies with the ISO 14001 standard. In case of uncontrolled oil spills, use the absorbents located at the loading yard. Vehicles used for loading should meet the latest noise emission standards.

The driver during truck loading should have:

helmet

reflective vest

safety shoes

For safety reasons, it is categorically forbidden for drivers and third parties not involved in loading process to move on the premises of Eurobent.

INSTRUCTIONS FOR DRIVERS:

LABELLING

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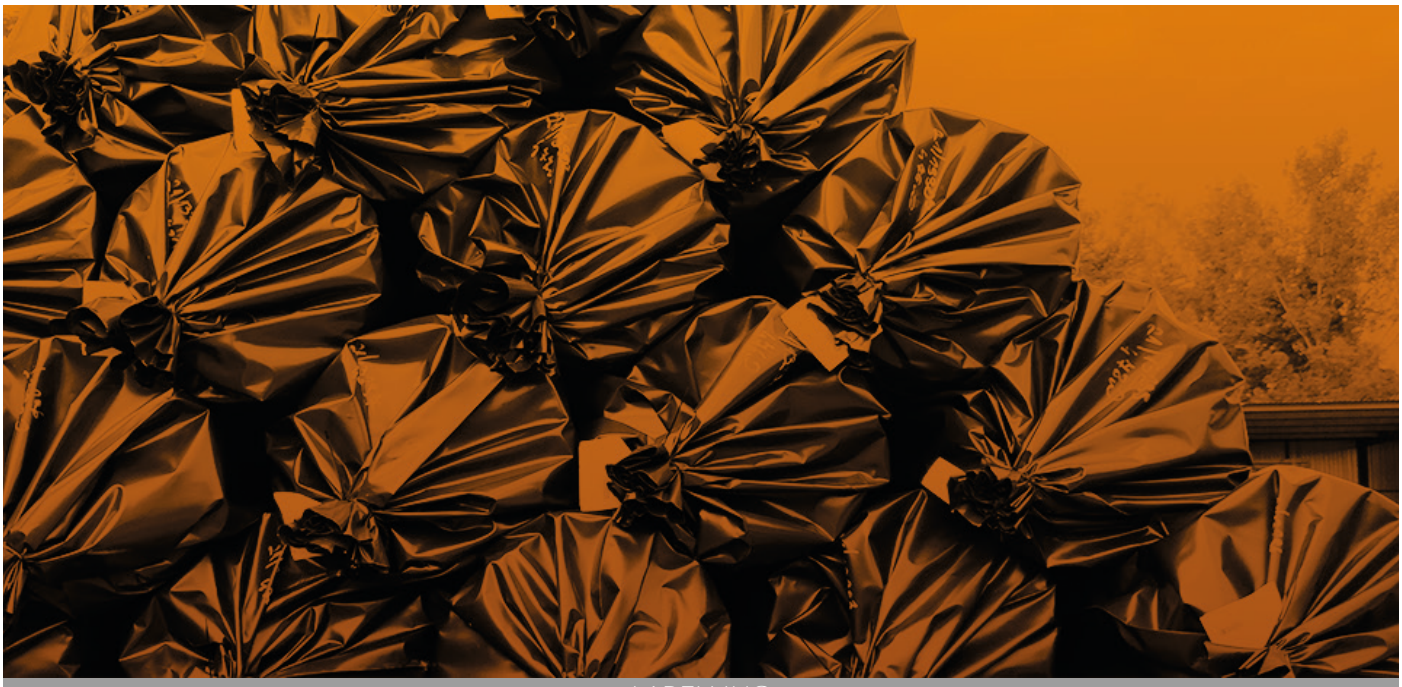
13. LABELLING

Each roll is wrapped in protective foil and labelled. The GCL is labelled according to EN ISO 10320 for easy identification after unloading and during installation.



LABELLING

BENTONITE BAGS

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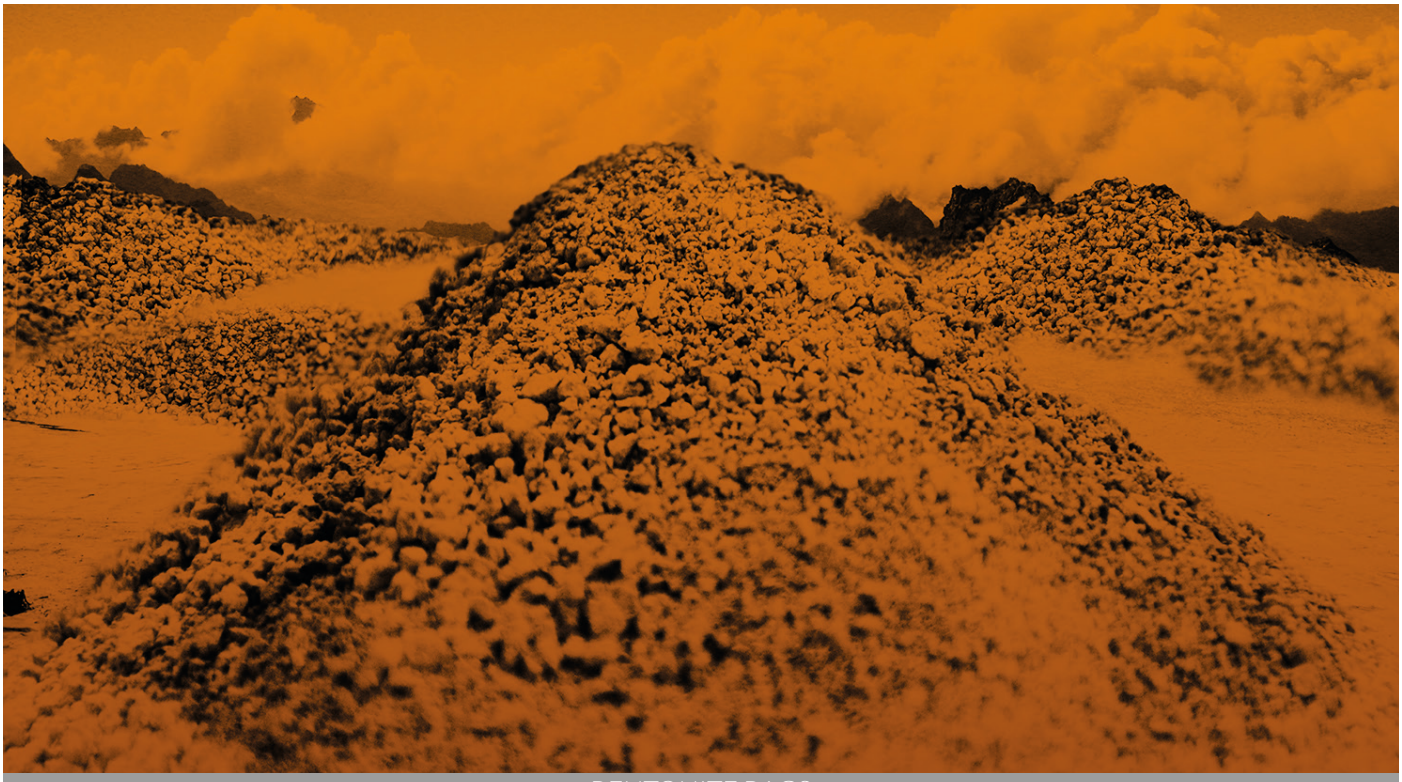
14. BENTONITE BAGS

Eurobent Sp. z o.o. supplies a 20 kg bag of bentonite powder for each roll 5,10 x 40 m. For rolls with prefabricated overlaps we supply one bag to every 3 rolls. The bag is meant for application in the overlapping areas.



BENTONITE BAGS

UNLOADING PROCEDURE

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15. UNLOADING PROCEDURE

1) The parties directly responsible for unloading the rolls should refer to this manual prior to arrival of the material in order to make sure they have proper unloading equipment and know the procedure. The unloading and on-site handling should be appropriately supervised.

2) During the unloading procedure all material lot and roll numbers should be recorded and compared to the packing list. In addition, each roll of GCL should also be visually inspected to determine if there is no perforation in the packaging or other visual material damage.

3) Accumulation of some moisture within roll packaging is normal and does not affect the product quality.

4) All damages occured during unloading or transit should be reported immediately to the carrier and to Eurobent Sp. z o.o. The exact nature and extent of the damage should also be indicated on the CMR / Bill of Lading along with the specific lot and roll numbers of the damaged materials. Photos of the damaged goods on the truck are required.

5) EUROBENT bentonite mats are wound on a plastic tube 100 mm inner diameter and wrapped in a UV-resistant foil.

6) Unloading the truck at the construction site is carried out either by forklifts, wheel loaders, excavators or by means of built-in truck cranes.
A suitable crossbeam can be used also for the unloading. The crossbeam pipe (with a maximum diameter of 8 cm) is thrust through the core of the rolls and attached at the ends with chains, belts or ropes to the crossbeam. The unloading is carried out upwards.

If there is no crossbeam available, at least 2 belts are wound around the rolls. The unloading is carried out smoothly upwards or laterally via e.g. crane.

Another unloading option is a forklift, to which a stable mandrel is attached. The truck is unloaded from the back in this manner. Under no circumstances should the rolls be dragged from the truck since the geosynthetic clay liner may be damaged significantly.

The GCL may also be delivered in shipping containers. In these cases, different unloading equipment and techniques must be employed. Because of limited access to the GCL rolls, it is usually necessary to utilize an extendable-boom forklift with a pole carpet (stinger) attachment.

The rolls are removed by inserting the stinger through the roll cores and lifting / pulling the rolls from the container. To each container we add several loading straps - thanks to that rolls can be tied up - it makes it easier to remove the rolls from the container.

ON-SITE STORAGE

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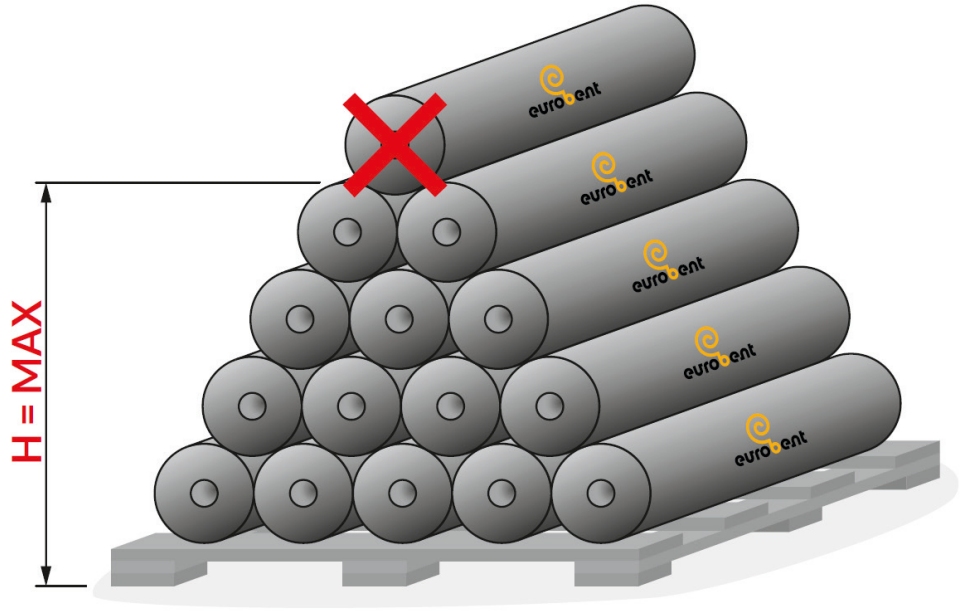
16. ON-SITE STORAGE

The GCL may be stored at a project site indefinitely, provided that proper storage procedures are followed.

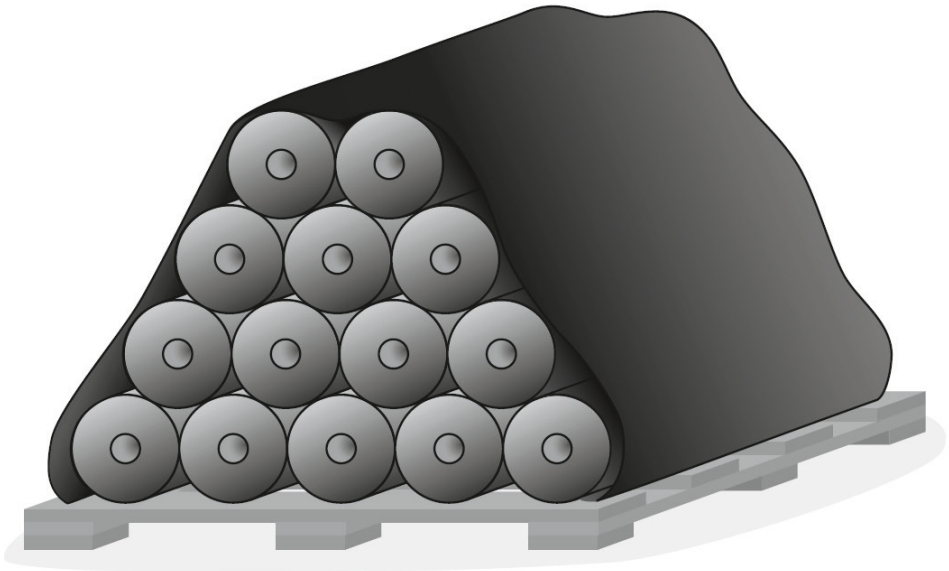
Firstly, a dedicated storage area should be identified. This area should be leveled, dry, well drained, and located away from high-traffic areas of the job site.

In the warehouse and on site, bentonite mats should be placed on underlying material (wooden beams, pallets, plastic profiles etc.) to avoid unnecessary material wetting by rain during storage.

Rolls should not be stacked in more than 4 rolls high.



It is a good practice to cover the stored rolls with a tarpaulin or a plastic sheeting for supplemental protection from the elements.



Long-term storage of material in a warehouse or on a construction site requires periodic inspection of the condition of the packaging. The polyethylene sleeves of the GCL rolls should be examined for any obvious rips or tears. Sleeve damage should be repaired immediately with adhesive tape or additional plastic sheeting. At this point it is also recommended to examine the labels - if they were displaced in transit, they should be taped to the roll.

MATERIALS HANDLING

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17. MATERIALS HANDLING

The equipment used to unload the GCL from the vehicle may also be used to transport the material on site and to convey it to work areas. All unloading and handling activities must be undertaken with great care to avoid damage to the GCL. The GCL should never be handled in ways that could affect its performance.

Forbidden activities:
- dropping the rolls from the edge of the truck or container,
- pushing or pulling the rolls on the ground surface,
- lifting the roll without a core pipe,
- bending the rolls by using a core pipe that cannot bear the weight of the roll,
- forcing a carpet pole into the GCL core – our core ID is 100 mm,
- carrying the GCL over excessively rutted, bumpy terrain to avoid roll bending.

Additional advice:
- ensure that the load is evenly balanced, slings must not be shortened in an unauthorised manner e.g. by twisting, knots
- protect loading belts from sharp edges, friction, abrasion
- It is necessary to secure the sharp edges of the unloading equipment so that they do not cut the loading belt.
- when handling the load, avoid situations in which dynamic impacts or contact with sharp edges (e.g. loader bucket, sharp edges of forks of forklift trucks) could damage the material

The illustration below shows how, under no circumstances, the material shall be attached to the unloading or unfolding equipment. Sharp edges of the below unloading equipment have to be secured in order to avoid cutting the loading belt and damaging the GCL roll.

The storage area should be secured against trespassing. GCL may only be relocated during dry weather. The bentonite mat can be damaged due to premature hydration during relocation.

To sum up, it may not be relocated in case of:
- precipitation (rainfall, snow)
- standing water
- unstabile or soft subground

DAMAGE FROM SHIPPING AND HANDLING

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18. Damage from shipping and handling

Occasionally, a GCL roll will arrive at a job site with its protective plastic sleeve torn due to movement during transit. This roll should be inspected for damage in the area where the sleeve was torn. If the geotextile under the torn sleeve is also torn, the outermost wrap of GCL on the roll should be unwound and discarded when the roll is installed. It is not necessary to consider the entire roll unusable. However, it is important to mark the roll in order to alert the installer, that the outer layer should be cut away and discarded, because the damaged geotextile may be hidden from view when the GCL is unrolled. It is possible that further layers of GCL on the roll could be similarly damaged. If this happens, additional wraps may be unrolled and discarded prior to placement. Damage due to poor handling may occur as a result of accidentally dropping a hung roll onto the ground or using weak core pipes that bend when the GCL is lifted. These activities can cause damage not just to the outer wrap of GCL but to the entire roll. If such damage occurs, the rolls should be clearly marked and moved away from the storage area.

DAMAGE FROM SHIPPING AND HANDLING

eurobent

KEEP ROLLING

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