



SOLENO
Mastering Storm Water

TRANSPORT AND LOGISTICS

**TRANSPORTS
AND SOLUTIONS ADAPTED
FOR YOUR PROJECTS**



REFERENCE TOOL

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TRANSPORT AND LOGISTICS

INFORMATIONS RELATED TO LOADS

We are regularly asked about the number of lengths required, by product type, for a full load. In this document, we present the most frequent types of loads through images and tables. Note that we do not cover all possibilities, as there are as many as there are different orders.

To begin with, and in order to use the same vocabulary, here is a short lexicon.

LEXICON

STACK

Part of a trailer filled with the same product of the same length.

Big stack : lower part of a drop deck trailer

Small stack : upper part of a flat bed trailer or drop deck trailer, or any part of a B-train trailer

NESTING

The action of inserting a smaller diameter into a larger one in order to maximize the number of pipes for the same trailer and thus distribute the transport cost over a larger total value.

Caution

- Some combinations of diameters do not allow insertion, for example a 375 mm (15 in) does not fit easily into a 450 mm (18 in). Soleno recommends skipping a diameter to facilitate the insertion. Refer to Table 4 of this document.
- All items in the order will be billed based on the item with the largest diameter.
- Load nets will be added to secure the load, according to **docking standards** in force.
- Provide two (2) nets for flat bed or drop deck trailers and four (4) nets for B-train trailers.
- Nets can be provided by Soleno or the customer (via their carrier).
- When provided by Soleno, plan a flat fee of \$200 per load net. These fees will be credited upon the return of the nets.

SIDE RAIL

Longitudinal part of a trailer, in which the posts (sticks) are inserted. The posts are secured by holding chains.



LEXICON (CONT'D)

INDIVISIBLE

18.5 m (60.7 ft) long pipe, normally of 300 mm (12 in) diameter, which allows [Quebec](#) and [New Brunswick](#) only*, to load for more than 16 m (52.5 ft) total. However, it uses the place of a few pipes. A Class 1 outsized transport licence is mandatory.

Caution: This indivisible length must be visible; it cannot be inserted in a larger pipe.

* This method is prohibited elsewhere in Ontario and the United States.

BUNDLE **IMPORTANT**

Bundle products in a «U» shaped wooden frame for easy handling and storage.

Diameters between 100 mm (4 in) and 250 mm (10 in) are packaged as soon as they leave the plant.

Diameters between 300 mm (12 in) and 600 mm (24 in) will be made upon request and delivery times will also apply. The bundle reduces the total quantity per trailer.

OUTSIZED TRANSPORT LICENCE

In [Quebec](#) and [New Brunswick](#), a Class 1 outsized transport licence is required for a load over 23 m (75.5 ft) in length and over 2.6 m (8.5 ft) in width, including the truck. Check with your dispatcher for more information.

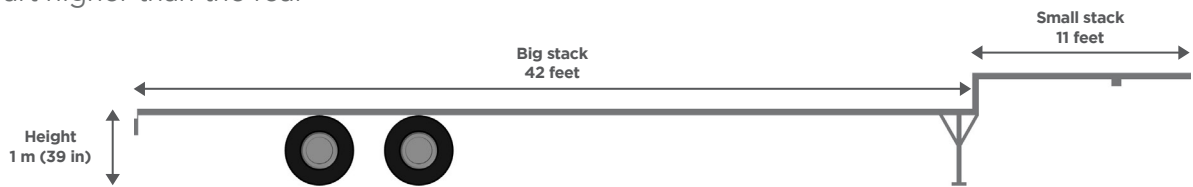
For shipments requiring escort service, check and comply with applicable local regulations regarding transportation and loadings.

TYPES OF TRAILERS

FOR ALL TRAILERS
One fixed side and one side with removable posts
Interior width : 2.5 m (8 ft)
Max. height : 4 m (13.6 ft)

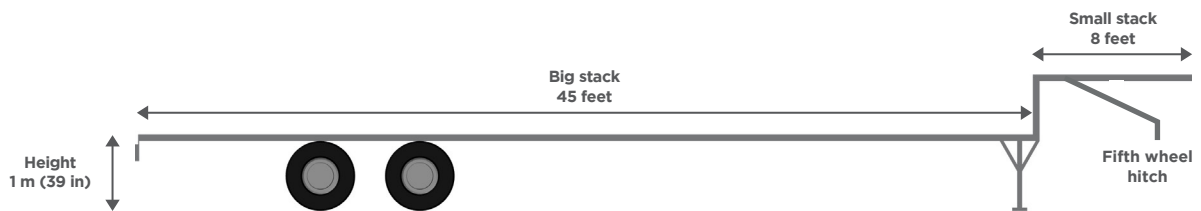
STANDARD DROP DECK - 53 feet

Front part higher than the rear



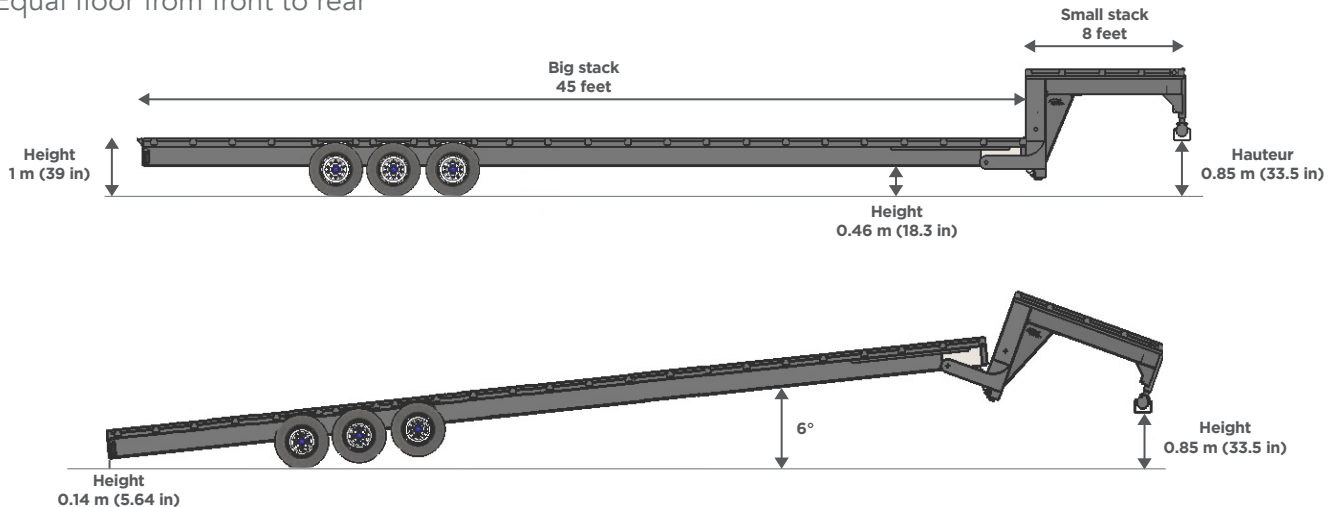
DROP DECK FOR F-350 PICK-UP - 53 feet

Equal floor from front to rear



DROP DECK DUMPER FOR F-350 PICK-UP - 53 feet

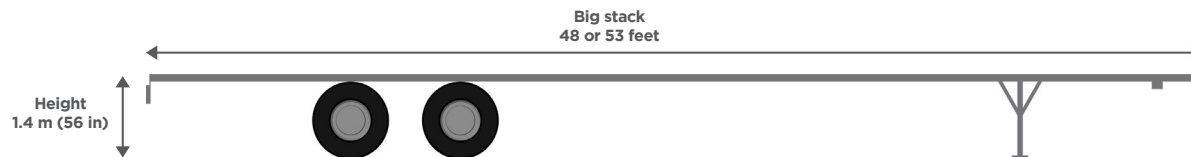
Equal floor from front to rear



TYPES OF TRAILERS (CONT'D)

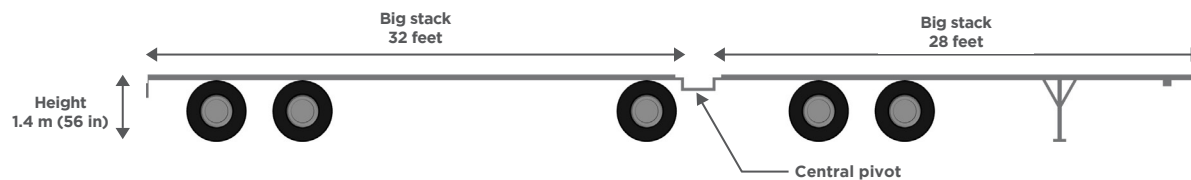
FLAT BED - 48 and 53 feet

CARRIER



B-TRAIN - 60 feet

Two shorter flat-bed trailers connected together by a pivot



RESTRICTIONS

IMPORTANT LOAD INFORMATION

- The quantities of lengths per load were calculated for trailers equipped with steel support posts (sticks). Flat bed and B-train trailers have posts that are at least 2.4 m (8 ft) high and drop deck trailers have posts that are at least 3.0 m (10 ft) high for the bottom portion.
- Except in Quebec, it is prohibited to exceed more than 2 m (6.6 ft) between the two sections of a B-train trailer. In addition, it is forbidden to overtake at the rear of a trailer, unless you have a Class 1 oversized transport licence.
- Pipes with bells occupy a longer space than pipes without bells, so loads cannot have more than 2 stacks.
- Loads overruns at the rear of the trailer are not permitted, except in very rare or very specific cases. If this is the case, check with your dispatcher to find out more about the different constraints.



HDPE

QUANTITIES AND INFORMATION

TABLE 1
NUMBER OF DRAINS AND SOLFLO PER LOADS
DROP DECK TRAILER

Nominal diameter		Length		Number of units per load	Total length		Number of stack
mm	in	m	ft		m	ft	
100	4	600	1968.1	7	4200	13776.7	-
100	4	30	98.4	135	4050	13287.4	-
100	4	15	49.2	300	4500	14760.0	-
100	4	75	246.1	68	5100	16734.8	-
100	4	45	147.6	110	4950	16240.0	-
100	4	1200	3937	6	7200	23622.0	-
150	6	30	98.4	68	2040	6691.2	-
150	6	300	984.3	7	2100	6890.1	-
200	8	30	98.4	25	750	2460.0	-
200	8	120	393.7	7	840	2755.9	2
200	8	6	19.7	240	1440	4728.0	-
250	10	120	393.7	6	720	2362.2	2
250	10	6	19.7	132	792	2600.4	2
300	12	6	19.7	108	648	2127.6	2

NOTE 1: Quantities calculated for a drop deck trailer whose height maximizes loading.

TABLE 2

NUMBER OF SOLFLO MAX PER LOADS
DROP DECK TRAILER

Nominal diameter		Length		Number of units per load	Total length		Number of stack
mm	in	m	ft		m	ft	
100 ¹	4 ¹	4	13.1	18 bundles	4320	14173.2	3
100 ²	4 ²	6	19.7	12 bundles	4320	14173.2	-
100	4	30	98.4	152	4560	14956.8	2
150 ¹	6 ¹	4	13.1	18 bundles	2016	6614.2	3
150 ²	6 ²	6	19.7	12 bundles	2016	6614.2	2
200 ¹	8 ¹	4	13.1	12 bundles	1104	3622.0	3
200 ²	8 ²	6	19.7	8 bundles	1104	3622.0	2
250 ¹	10 ¹	4	13.1	16 bundles	1056	3464.5	4
250 ²	10 ²	6	19.7	12 bundles	792	2598.4	2
300 ¹	12 ¹	4	13.1	156	624	2043.6	3
300	12	6	19.7	153*	918	3014.1	3
300 ²	12 ²	6	19.7	108	648	2127.6	2
300	12	9	29.5	100*	900	2950.0	2
300	12	12	39.4	54	648	2127.6	1
375 ¹	15 ¹	4	13.1	100	400	1310.0	3
375	15	6	19.7	97*	582	1910.9	3
375 ²	15 ²	6	19.7	70	420	1379.0	2
375	15	9	29.5	63*	567	1858.5	2
375	15	12	39.4	35	420	1379.0	1

NOTE 1: Pipes with bells with Integrated Gasket (BIG).

NOTE 2: Pipes with bells.

NOTE 3: Quantities calculated for a drop deck type of trailer whose height maximizes loading.

* Loading is possible only with the addition of an indivisible length of 18.5 m (60.7 ft).

TABLE 2

NUMBER OF SOLFLO MAX PER LOADS (CONT'D)
DROP DECK TRAILER

Nominal diameter		Length		Number of units per load	Total length		Number of stack
mm	in	m	ft		m	ft	
450 ¹	18 ¹	4	13.1	68	272	890.8	3
450	18	6	19.7	68*	408	1339.6	3
450 ²	18 ²	6	19.7	48	288	945.6	2
450	18	9	29.5	44*	396	1298.0	2
450	18	12	39.4	24	288	945.6	1
525 ¹	21 ¹	4	13.1	51	204	668.1	3
525	21	6	19.7	51*	306	1004.7	3
525 ²	21 ²	6	19.7	36	216	709.2	2
600 ¹	24 ¹	4	13.1	33	132	432.3	3
600	24	6	19.7	33*	198	650.1	3
600 ²	24 ²	6	19.7	24	144	472.8	2
600	24	9	29.5	21*	189	619.5	2
600	24	12	39.4	12	144	472.8	1
750 ¹	30 ¹	4	13.1	26	104	340.6	3
750	30	6	19.7	26*	156	512.2	3
750 ²	30 ²	6	19.7	18	108	354.6	2
750	30	9	29.5	17*	153	501.5	2
900 ¹	36 ¹	4	13.1	17	68	222.7	3
900	36	6	19.7	17*	102	334.9	3
900 ²	36 ²	6	19.7	12	72	236.4	2
900	36	9	29.5	11*	99	324.5	2
1050 ²	42 ²	3.3	10.8	16	52.8	172.8	4
1200 ²	48 ²	4	13.1	8	32	104.8	3
1200	48	6	19.7	8*	48	157.6	3
1200 ¹	48 ¹	6	19.7	5	30	98.5	2

NOTE 1: Pipes with bells with Integrated Gasket (BIG).

NOTE 2: Pipes with bells.

NOTE 3: Quantities calculated for a drop deck type of trailer whose height maximizes loading.

* Loading is possible only with the addition of an indivisible length of 18.5 m (60.7 ft).

TABLE 3

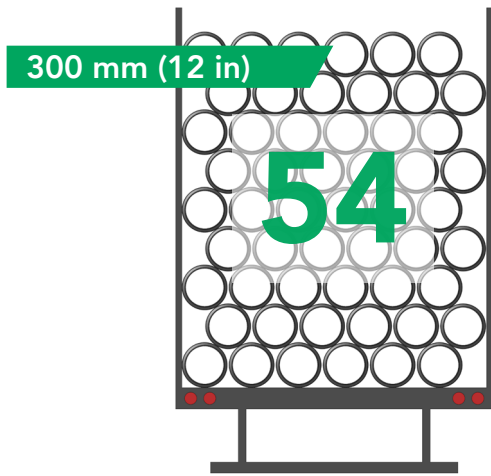
NUMBER OF HDPE PIPES PER STACK

Nominal diameter		Number of lengths per stack	
		Drop deck*	Flat bed or B-Train
mm	in		
300	12	54	48
375	15	35	30
450	18	24	20
600	24	12	9
750	30	9	8
900	36	6	5
1050	42	4	4
1200	48	3	2

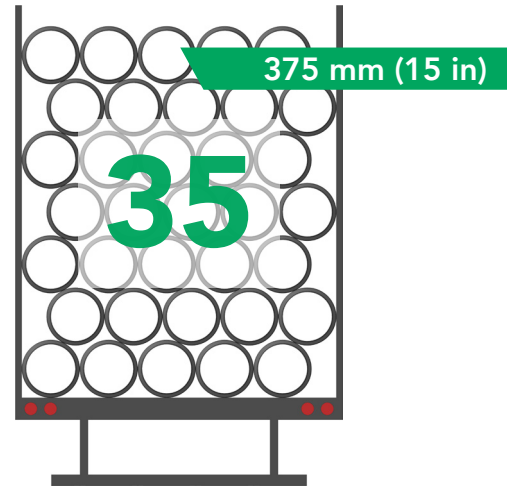
* Imaged information in the following pages.

NUMBER OF HDPE PIPES PER STACK

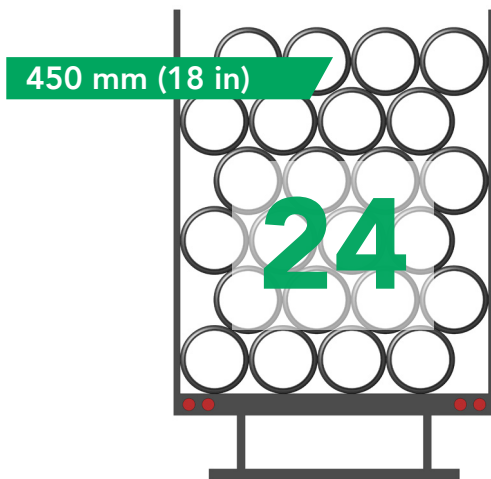
FOR A DROP DECK TRAILER



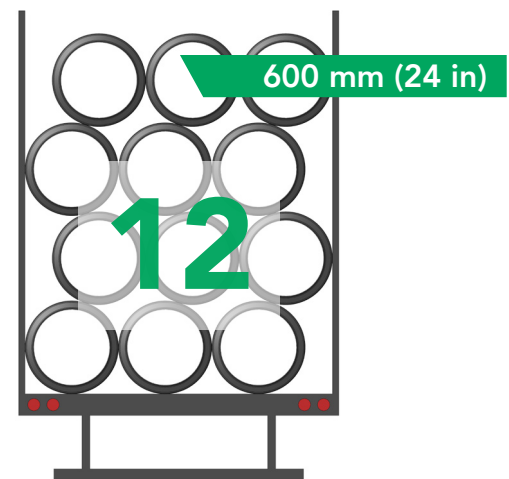
*Flat bed or B-Train trailer: 48



*Flat bed or B-Train trailer: 30



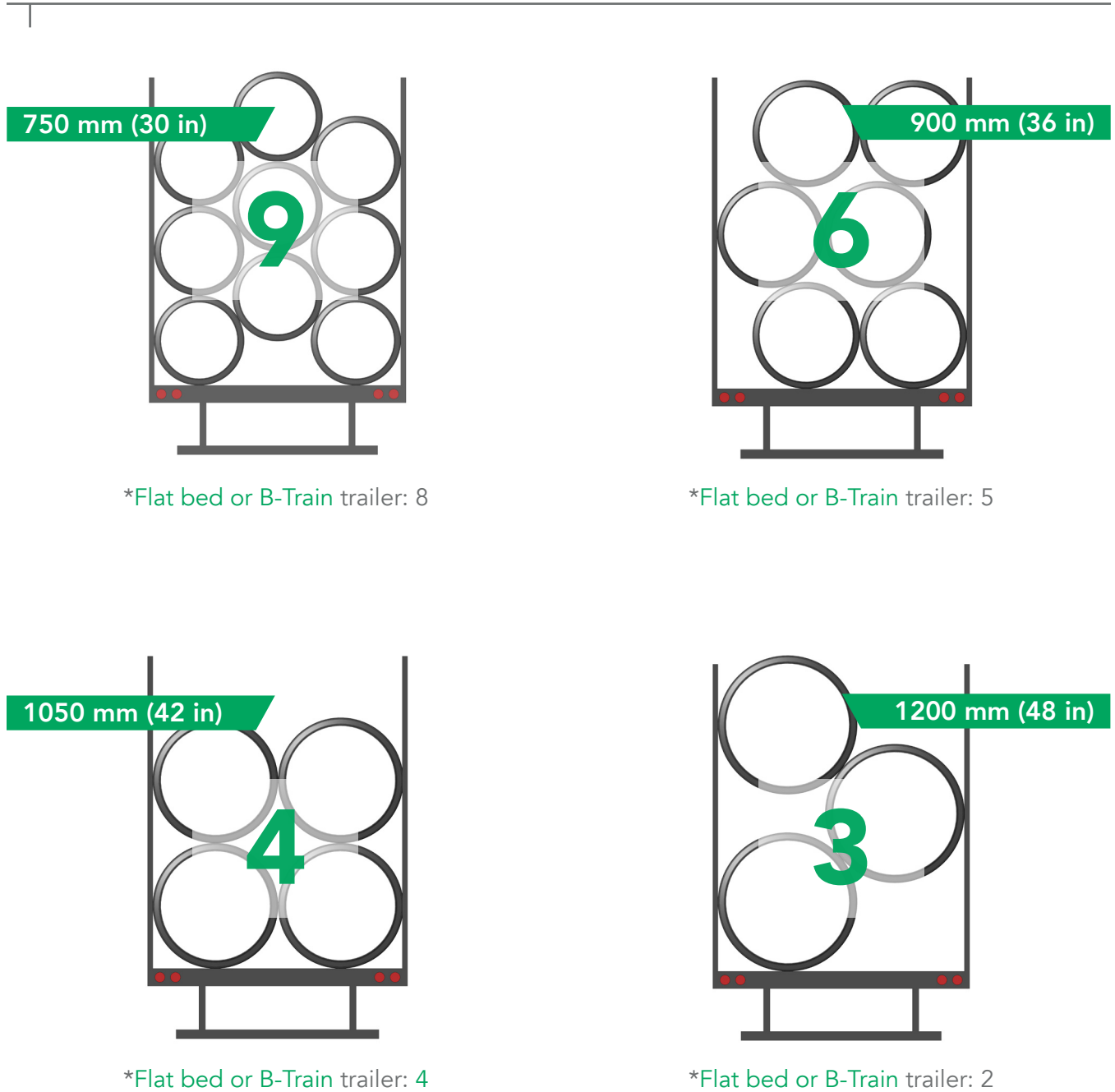
*Flat bed or B-Train trailer: 20



*Flat bed or B-Train trailer: 9

Note 1: Quantities are calculated for drop deck trailers with posts (sticks) inserted in the side rail.
 Note 2: Quantities are intended for pipes with plain ends (without bell) and with bells.

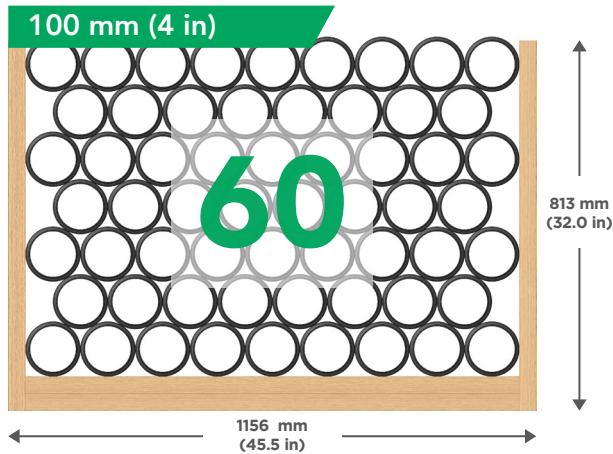
NUMBER OF HDPE PIPES PER STACK (CONT'D) FOR A DROP DECK TRAILER



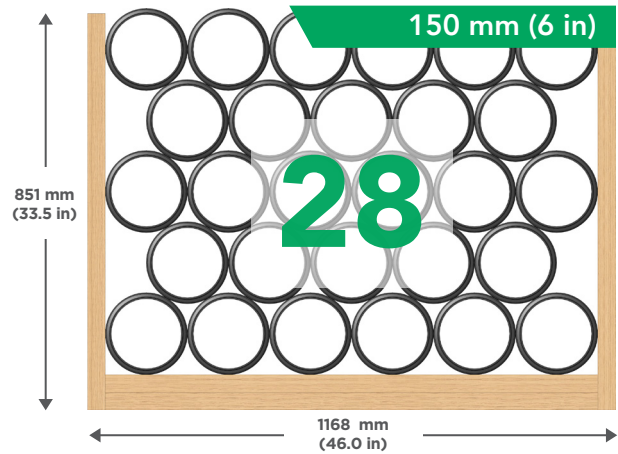
Note 1: Quantities are calculated for drop deck trailers with posts (sticks) inserted in the side rail.
 Note 2: Quantities are intended for pipes with plain ends (without bell) and with bells.

BUNDLE OF HDPE PIPES

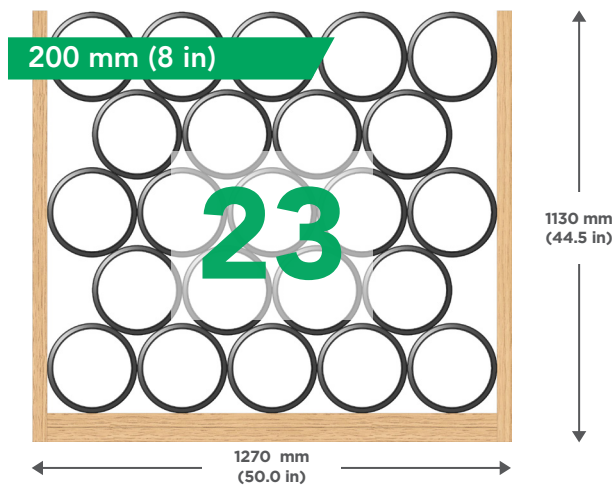
FOR A DROP DECK TRAILER



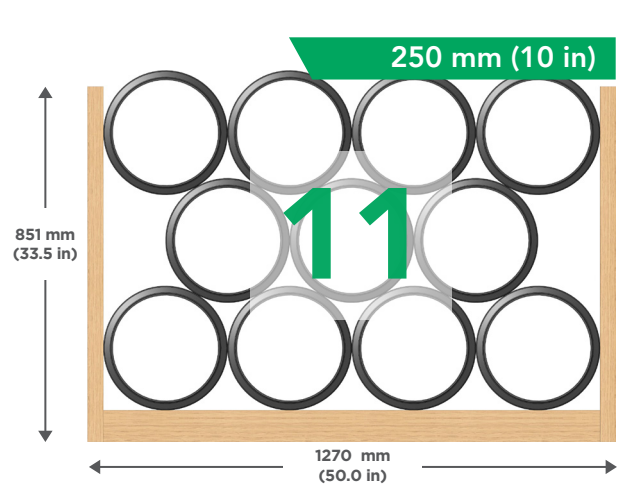
6 bundles per stack
(2 bundles/row x 3 bundles high)



6 bundles per stack
(2 bundles/row x 3 bundles high)



4 bundles per stack
(2 bundles/row x 2 bundles high)



6 bundles per stack
(2 bundles/row x 3 bundles high)

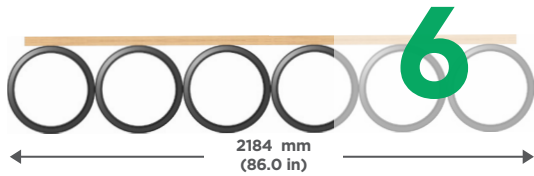
ASSEMBLY

The bundles are assembled on 3 wooden U-shaped frames. These frames are made of «2 x 4» or «2 X 6».

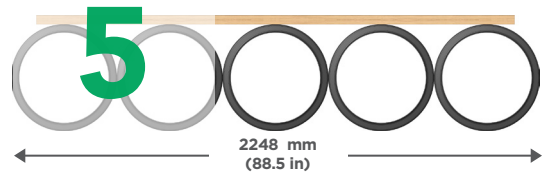
BUNDLE OF HDPE PIPES (CONT'D)

FOR A DROP DECK TRAILER

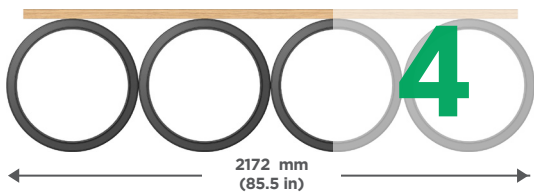
300 mm (12 in)



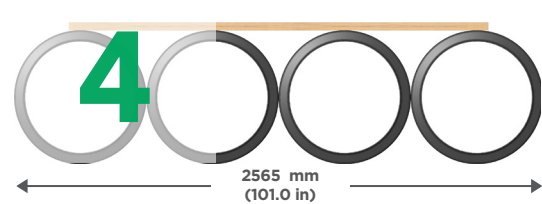
375 mm (15 in)



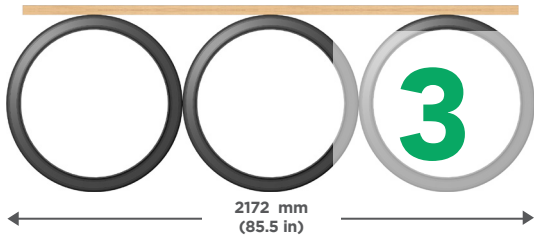
450 mm (18 in)



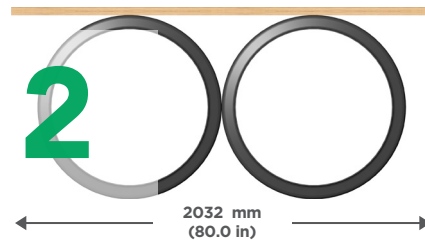
525 mm (21 in)



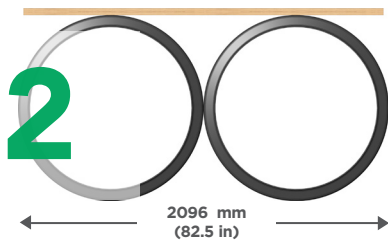
600 mm (24 in)



750 mm (30 in)



900 mm (36 in)



1050 mm (42 in)

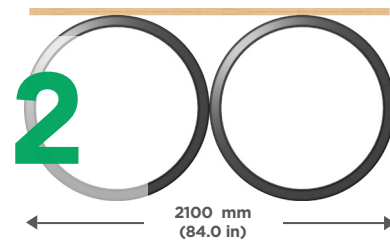


TABLE 4
HDPE PIPES NESTING

	PIPE IN WHICH WE INSERT										
	DIA. NOM.	300 mm (12 in)	375 mm (15 in)	450 mm (18 in)	525 mm (21 in)	600 mm (24 in)	750 mm (30 in)	900 mm (36 in)	1050 mm (42 in)	1200 mm (48 in)	1500 mm (60 in)
300 mm (12 in)	N	X	Y	Y	Y	Y	Y	Y	Y	Y	Y
375 mm (15 in)	N	N	X	Y	Y	Y	Y	Y	Y	Y	Y
450 mm (18 in)	N	N	N	N	Y	Y	Y	Y	Y	Y	Y
525 mm (21 in)	N	N	N	N	N	Y	Y	Y	Y	Y	Y
600 mm (24 in)	N	N	N	N	N	Y*	Y	Y	Y	Y	Y
750 mm (30 in)	N	N	N	N	N	N	Y	Y	Y	Y	Y
900 mm (36 in)	N	N	N	N	N	N	N	N	Y	Y	Y
1050 mm (42 in)	N	N	N	N	N	N	N	N	Y	Y	Y
1200 mm (48 in)	N	N	N	N	N	N	N	N	N	Y	Y
1500 mm (60 in)	N	N	N	N	N	N	N	N	N	N	N

LEGEND:

Y = Insertion of these pipes is possible.

N = Insertion of these pipes is not possible.

X = Insertion of these pipes is possible, but not recommended. Available, with notice, on customer request.

* This combination is not recommended for Turbulence pipes.

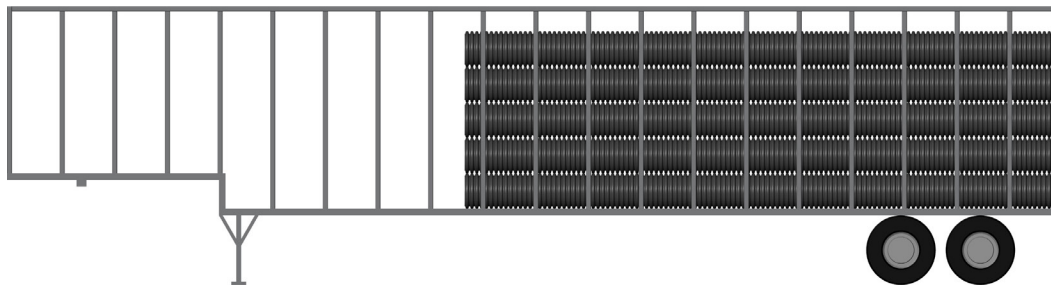
Note 1: The diameters shown in the table are nominal diameters (interior).

Note 2: Pipes have larger outside diameters due to corrugations.

EXAMPLES OF TRAILER LOADS

HDPE PIPES

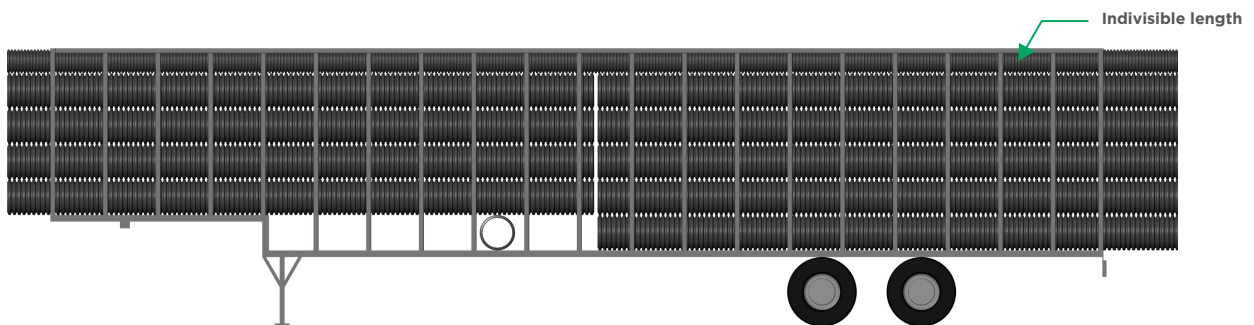
DROP DECK TRAILER WITHOUT EXCEEDANCES AT THE END



Example of a stack: 24 pipes of 450 mm (18 in) diameter, of 9 m (29.5 ft) long and available space for 6 m (20 ft) culverts or rolls of drains.

DROP DECK TRAILER WITH EXCEEDANCES AT THE END

QC AND NB ONLY

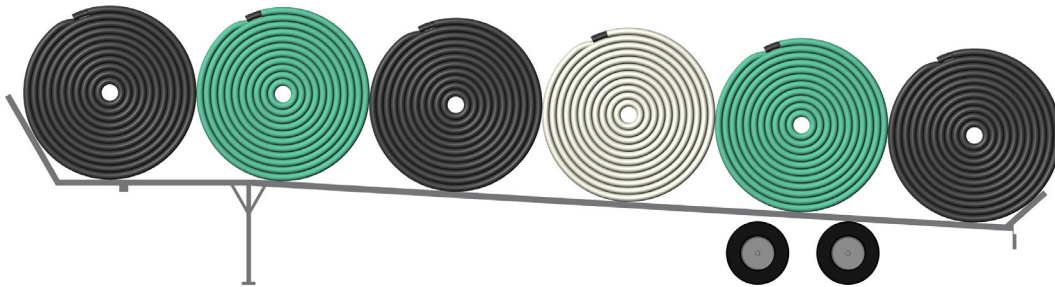


Example of 2 oversized stacks: 42 pipes of 450 mm (18 in) diameter, of 9 m (29.5 in) long and 1 indivisible length of 300 mm (12 in) diameter and of 18.5 m (60.7 in) long, visible on top of the load.

EXAMPLES OF TRAILER LOADS (CONT'D)

HDPE PIPES

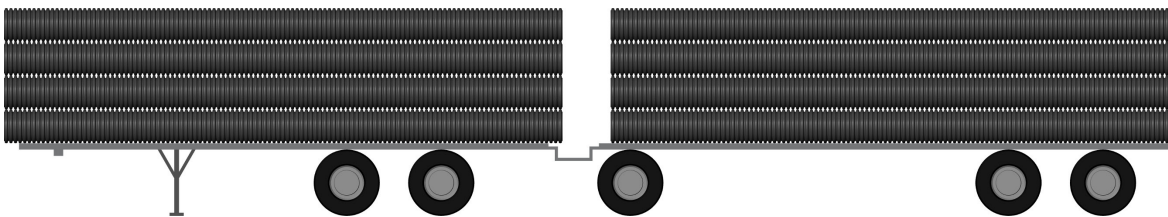
FLAT BED TRAILER FOR MAXIS



Example: up to 6 Maxis de 100 mm (4 in) diameter and of 1200 m in length and available space to put accessories in the bottom-side boxes.

B-TRAIN TRAILER

QC AND NB ONLY



Example of 2 stacks: 40 pipes (2 x 20) of 450 mm (18 in) diameter and of 9 m (29.5 in) long.



STEEL

QUANTITIES AND INFORMATION

TABLE 5
NUMBER OF STEEL PIPES PER STACK

Nominal diameter		Number of lengths per stack	Nominal diameter		Number of lengths per stack
mm	in		mm	in	
150	6	216 (108 x 2)	1000	40	4
200	8	126 (63 x 2)	1200	48	4
250	10	86 (43 x 2)	1400	56	1 or 2
300	12	49	1500	60	1 or 2
375	15	36	1600	64	1
400	16	36	1800	72	1
450	18	25	2000	80	1
500	20	20	2200	88	1
600	24	16	2400	96	1
700	28	9	2700	108	1
750	30	9	3000	120	1
800	32	9	3300	132	1
900	36	6	3600	144	1

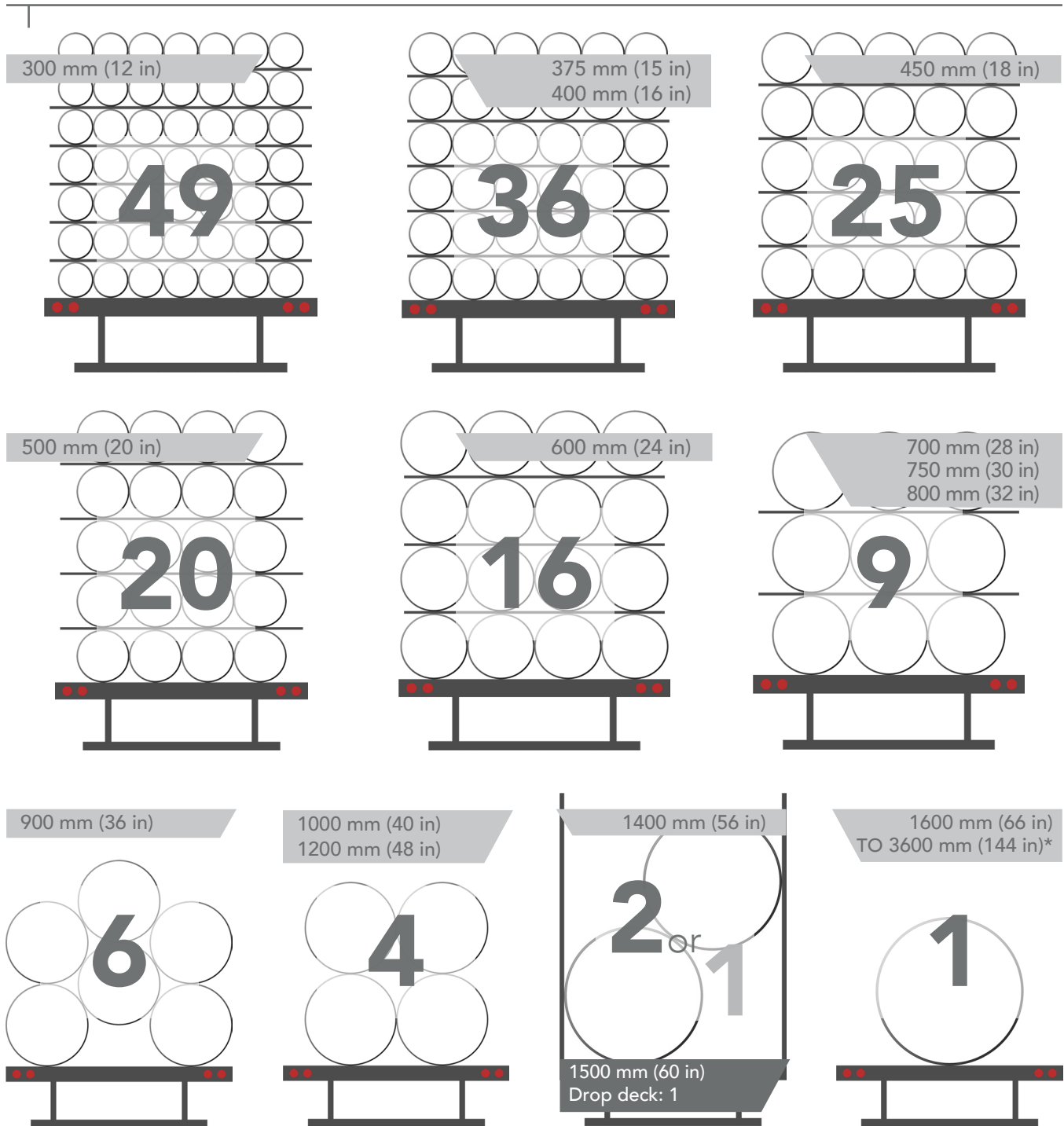
* Imaged information in the following pages.

NOTES

- Pipe loads of 2700 mm (108 in) or larger are considered oversized as trailers are up to 2.6 m (102 in) wide.
- The insertion of steel pipes is possible, except for the 375 mm (15 in) combination in the 400 mm (16 in).

NUMBER OF STEEL PIPES PER STACK

FOR A DROP DECK AND FLAT BED TRAILERS



Note 1: Quantities are calculated for drop deck, flat bed and B-Train trailers.

Note 2: Posts (sticks) inserted into the side rail are mandatory for loads of 1400 mm (56 in) and 1500 mm (60 in) only.

Note 3: The maximum loading height on a trailer is 4.1 m (13.5 ft).

* Starting at 2700 mm (108 in), the load is out of specification and a Class 1 oversized transport licence is mandatory.

TABLE 6
HDPE PIPES INSERTION (NESTING) IN STEEL PIPES

	SOLFLO MAX PIPES TO INSERT						
	NOM. DIA.	300 mm (12 in)	375 mm (15 in)	450 mm (18 in)	600 mm (24 in)	Other possibilitie	Other possibilitie
STEEL PIPES IN WHICH WE INSERT	750 mm (30 in)	2	1	1	1		
	900 mm (36 in)	4	2	1	1		
	1000 mm (40 in)	5	3	1	1	1 x 375 mm (15 in) 1 x 450 mm (18 in)	4 x 300 mm (12 in)
	1200 mm (48 in)	7	4	3	1	3 x 450 mm (18 in)	
	1400 mm (56 in)	10	7	4	1	4 x 450 mm (18 in)	
	1500 mm (60 in)	12	8	5	2	5 x 450 mm (18 in)	
	1600 mm (64 in)	13	8	5	2		13 x 300 mm (12 in)
	1800 mm (72 in)	18	11	8	4	2 x 750 mm (30 in)	
	2000 mm (80 in)	22	14	9	5		
	2200 mm (88 in)	27	19	11	7	5 x 600 mm (24 in)	
	2400 mm (96 in)	31	21	14	8		
	2700 mm (108 in)	40	27	19	9		
	3000 mm (120 in)	50	34	22	12		
	3300 mm (132 in)	61	40	27	15		
	3600 mm (144 in)	76	48	33	19		

Note 1: Steel pipes between 2700 mm (108 in) and 3600 mm (144 in) are outsized and require a special transport licence. See the price list for more information.

Note 2: Other possibilities may be added to this list, check with your dispatcher for more information.



GEOSYNTHETICS

QUANTITIES AND INFORMATION

TABLE 7
NUMBER OF GEOSYNTHETICS ROLLS - ICI SECTOR

Product	Nominal diameter		Standard width		Flat bed trailer with posts	Flat bed trailer without posts	Closed trailer
	mm	in	m	ft			
					Number of rolls per stack		
TX-70	425	17	3.5	11.5	25	15	25
TX-80	450	18	3.5	11.5	25	15	25
TX-90	525	21	3.5	11.5	25	15	25
TX-110	625	25	3.5	11.5	16	10	16
TX-170	500	20	3.5	11.5	25	15	25
TX-200	600	24	3.5	11.5	16	10	16
TX-200B	650	26	3.5	11.5	16	10	16
TX-300	575	23	3.5	11.5	15	10	15
TX-400	650	26	3.5	11.5	12	6	12
TX-800	750	30	3.5	11.5	12	6	12
TX-1600	675	27	3.5	11.5	16	10	16
ROUTEX IV	500	20	3.5	11.5	25	15	25
DRAINCOTEX 0.85	550	22	0.66	2.2	16	10	16
DRAINCOTEX 1.00	550	22	1.0	3.3	16	10	16
DRAINCOTEX 1.20	550	22	1.2	4.0	16	10	16
DRAINATEX	550	22	3.4	11.2	20	10	20
BX-2000	300	12	3.95	13.0	60	-	60
BX-3000	400	16	3.95	13.0	50	-	50
TX-MP	400	16	1.8	6.0	25	15	25
TX-R	550	22	3.5	11.5	20	10	20

TABLE 8
NUMBER OF GEOSYNTHETICS ROLLS - RESIDENTIAL SECTOR

Product	Nominal diameter		Standard width		Standard length		Qty. Rolls/ Pallet
	mm	in	m	ft	m	ft	
TX-70	475	19.0	3.50	11.50	150	492.0	-
	475	19.0	1.75	5.74	150	492.0	8
	225	9.0	1.75	5.74	30	98.4	40
TX-80	475	19.0	3.50	11.50	150	492.0	-
	475	19.0	1.75	5.74	150	492.0	8
	475	19.0	1.17	3.84	150	492.0	8
	225	9.0	1.75	5.74	30	98.4	40
	292	11.5	0.70	2.29	50	164.0	48
TX-90	500	20.0	3.50	11.50	150	492.0	-
TX-170	489	19.25	3.50	11.50	100	328.0	-
TX-F	495	19.5	3.50	11.50	100	328.0	-
	375	15.0	3.50	11.50	50	164.0	-
	375	15.0	1.75	5.74	50	164.0	-
EPURTEX	300	12.0	3.00	9.80	150	492.0	-
	300	12.0	1.50	4.90	150	492.0	17
	200	8.0	1.50	4.90	50	164.0	40
HIBERTEX	350	14.0	1.65	5.40	150	492.0	12
	200	8.0	1.65	5.40	30	98.4	35
	350	14.0	1.10	3.60	150	492.0	12
MICROFAB	225	9.0	1.17	3.84	100	328.0	25
	150	6.0	1.17	3.84	30	98.4	50
2002W	225	9.0	3.81	12.50	131	432.0	-
2004W	250	10.0	3.81	12.50	110	360.8	-
2006W	275	11.0	3.81	12.50	110	360.8	-



SOLENO OBTAINED

its **ECORESPONSIBLE** Certification
 - level **2. Performance** in sustainable development from the Council for sustainable industries (CSI) **ECORESPONSIBLE™** Program.

(Soleno plant located at 1160, route 133, Saint-Jean-sur-Richelieu only)



SOLENO IS ISO 9001 CERTIFIED

(Saint-Jean-sur-Richelieu plant only)

SOLENO IS A MEMBER OF THESE AGENCIES:



OUR HDPE PRODUCTS AND SOLUTIONS ARE DESIGNED AND MANUFACTURED ACCORDING TO THE MOST RIGOROUS STANDARDS.