

Liner Codes

Suffix		Suffix	
C	Conical	EXM	Expanded Metal Bottom
BT	Barrel Top	F	Flat
CMT	Cement	IF	Internal Foam
E	Epoxy	MT	Empty
EDX	Ecodex	P	Powdex
WM	Wide Mouth	R	Bead Resin

Polyethylene Liners Volumes/Weights

Polyethylene Liners	Burial Vol (CF)	Max Internal Vol (CF)	Usable Vol (CF) Dewater/Solid	Gross Weight (lbs)	Empty Weight (lbs)
PL 6-80 MT	83.4	73.3	NA	7,500	500
PL 6-80 MTIF	83.4	64.1	NA	7,500	525
PL 6-80 FR	83.4	73.3	64/NA	7,500	550
PL 6-80 FP/FEDX	83.4	73.3	62/NA	7,500	625
PL 8-120 MT	120.3	107.6	NA	10,000	600
PL 8-120 MTIF	120.3	95.8	NA	10,000	625
PL 8-120 FR	120.3	107.6	101/NA	10,000	650
PL 8-120 FP/FEDX	120.3	107.6	99/NA	10,000	725
PL 8-120 CMT	120.3	107.6	101/NA	14,000	720
PL 10-160 MT	145.7	129.8	NA	9,500	700
PL 10-160 MTIF	145.7	115.6	NA	9,500	735
PL 10-160 FR	145.7	129.8	121.8	9,500	750
PL 10-160 FP/FEDX	145.7	129.8	119.4	9,500	825
PL 10-160 CMT	145.7	129.8	121.8	16,000	820
PL 14-170 MT	170.8	150.3	NA	10,800	800
PL 14-170 MTIF	170.8	134.9	NA	10,800	850
PL 14-170 FR	170.8	150.3	141/NA	10,800	850

Polyethylene Liners	Burial Vol (CF)	Max Internal Vol (CF)	Usable Vol (CF) Dewater/Solid	Gross Weight (lbs)	Empty Weight (lbs)
PL 14-170 FP/FEDX	170.8	150.3	138/NA	10,800	1000
PL 14-170 CMT	170.8	150.3	141/NA	18,000	1000
PL 14-195 MT	194.1	171.4	NA	12,200	850
PL 14-195 MTIF	194.1	154.6	NA	12,200	900
PL 14-195 FR	194.1	171.4	162/NA	12,200	900
PL 14-195 FP/FEDX	194.1	171.4	159/NA	12,200	1050
PL 14-195 CMT	194.0	171.4	N/A	19,000	1,000
PL 14-215 MT	205.8	189.2	NA	13,000	1200
PL 14-215 MTIF	205.8	171.7	NA	13,000	1250
PL 14-215 FR	205.8	189.2	177/NA	13,000	1250
PL 14-215 FP/FEDX	205.8	189.2	174/NA	13,000	1400
PL 21-300 MT	314.2	285.1	NA	18,750	1100
PL 21-300 MTIF	314.2	262.1	NA	18,750	1175
PL 21-300 FR	314.2	285.1	269/NA	18,750	1150
PL 21-300 FP/FEDX	314.2	285.1	264/NA	18,750	1350
60 GAL OVERPACK	10.2	8.4	NA	1,200	125
SMALL OVERPACK	28.0	23.8	NA	2,500	250
246 GAL O.P.	36.5	32.7	NA	2,500	285
MEDIUM O.P.	38.3	33.5	NA	2,500	305

Suffix	
HUH	HUHIC
EL	Envirolene

NOTE: All liners below are empty – without internals.

	Burial Vol (CF)	Max Internal Vol (CF)	Usable Vol (CF) Dewater/Solid	Gross Wt (lbs)	Empty Wt (lbs)	Empty Wt (lbs) (w/Std Lift Assembly)	Empty Wt (lbs) (w/Grapple Lift Assembly)
Radlok Series							
Radlok 500	135.8	111.0	110.7	9,500	680		
Radlok 179	178.9	156.8	156.4	18,500	1,090		
Radlok 195	195.2	172.8	172.4	18,500	1,150		
Envirolene Series							
EL-50	51.2	41.0		4,200		600	909
EL-142	132.4	113.6		8,250		882	1,456
EL-190	174.3	150.6		14,800		1,025	1,843
EL-210	202.1	176.7		17,300		1,138	2,072

Polyethylene Liner Dimensions

Polyethylene Liners	Max Height (inches)	Max Diameter Standard Lift Bail with Centering Tabs (inches)	Max Diameter Standard Lift Bail without Centering Tabs (inches)	Max Diameter Grapple Lift Bail with Centering Tabs (inches)	Max Diameter Grapple Lift Bail without Centering Tabs (inches)	Max Diameter Grapple Stack Lift Bail with Centering Tabs (inches)	Max Diameter Grapple Stack Lift Bail without Centering Tabs (inches)
PL 6-80 MT	57.5	58.75	58	59.5	58	60	58.5
PL 6-80 MTIF	57.5	58.75	58	59.5	58	60	58.5
PL 6-80 FR	57.5	58.75	58	59.5	58	60	58.5
PL 6-80 FP/FEDX	57.5	58.75	58	59.5	58	60	58.5
PL 8-120 MT	74.5	61.75	61	N/A	61	N/A	61.5
PL 8-120 MTIF	74.5	61.75	61	N/A	61	N/A	61.5
PL 8-120 FR	74.5	61.75	61	N/A	61	N/A	61.5
PL 8-120 FP/FEDX	74.5	61.75	61	N/A	61	N/A	61.5
PL 8-120 CMT	74.5	61.75	61	N/A	61	N/A	61.5
PL 10-160 MT	76.25	67.25	65.5	67.5	65.5	N/A	N/A
PL 10-160 MTIF	76.25	67.25	65.5	67.5	65.5	N/A	N/A
PL 10-160 FR	76.25	67.25	65.5	67.5	65.5	N/A	N/A
PL 10-160 FP/FEDX	76.25	67.25	65.5	67.5	65.5	N/A	N/A
PL 10-160 CMT	76.25	67.25	65.5	67.5	65.5	N/A	N/A
PL 14-170 MT	72.75	75.25	73.5	75.5	73.5	75.5	74
PL 14-170 MTIF	72.75	75.25	73.5	75.5	73.5	75.5	74
PL 14-170 FR	72.75	75.25	73.5	75.5	73.5	75.5	74
PL 14-170 FP/FEDX	72.75	75.25	73.5	75.5	73.5	75.5	74
PL 14-170 CMT	72.75	75.25	73.5	75.5	73.5	75.5	74
PL 14-195 MT	79.5	76.75	75	77	75	77	75
PL 14-195 MTIF	79.5	76.75	75	77	75	77	75
PL 14-195 FR	79.5	76.75	75	77	75	77	75
PL 14-195 FP/FEDX	79.5	76.75	75	77	75	77	75
PL 14-195 CMT	79.5	76.75	75	77	75	77	75

Polyethylene Liners	Max Height (inches)	Max Diameter Standard Lift Bail with Centering Tabs (inches)	Max Diameter Standard Lift Bail without Centering Tabs (inches)	Max Diameter Grapple Lift Bail with Centering Tabs (inches)	Max Diameter Grapple Lift Bail without Centering Tabs (inches)	Max Diameter Grapple Stack Lift Bail with Centering Tabs (inches)	Max Diameter Grapple Stack Lift Bail without Centering Tabs (inches)
PL 14-215 MT	79.5	N/A	76.125	N/A	76.375	N/A	N/A
PL 14-215 MTIF	79.5	N/A	76.125	N/A	76.375	N/A	N/A
PL 14-215 FR	79.5	N/A	76.125	N/A	76.375	N/A	N/A
PL 14-215 FP/FEDX	79.5	N/A	76.125	N/A	76.375	N/A	N/A
PL 21-300 MT	108.5	82.75	81	82.75	81.5	82.5	82
PL 21-300 MTIF	108.5	82.75	81	82.75	81.5	82.5	82
PL 21-300 FR	108.5	82.75	81	82.75	81.5	82.5	82
PL 21-300 FP/FEDX	108.5	82.75	81	82.75	81.5	82.5	82
60 GAL OVERPACK	35	N/A	25.5	N/A	N/A	N/A	N/A
SMALL OVERPACK	57	N/A	34	N/A	N/A	N/A	N/A
246 GAL O.P.	74.25	N/A	34	N/A	N/A	N/A	N/A
MEDIUM O.P.	78	N/A	34	N/A	N/A	N/A	N/A

	Max Height Include slings (inches)	Outside Diameter (inches)	Outside Height (inches)	Manway Opening Diameter (inches)	Fill Port Opening Diameter (inches)	Lift Assembly Outside Diameter w/Std Lift Assembly (inches)	Lift Assembly Outside Diameter w/Grapple Lift Assembly (inches)
Radlok Series							
Radlok 500	115.875	64.5	71.875	16.0	8.375		
Radlok 179	119.50	73.50	72.875	19.250	10.125		
Radlok 195	126.625	73.50	79.50	19.250	10.125		
Envirolene Series							
EL-50	74.0	46.5	51.0	19.8		64.5	65.0
EL-142	101.0	64.0	70.0	19.8		73.5	74.5
EL-190	107.0	73.0	71.0	19.8		75.5	76.5
EL-210	114.0	75.0	78.0	19.8		N/A	N/A

Note: The exact liner height and diameter can be verified by contacting EnergySolutions Liner Operations.
To verify the Dimensions the liner serial number will be required.

Liner Codes

Prefix		Suffix	
L	Carbon Steel	C	Conical
R	Resin (Bead)	BT	Barrel Top
P	Powdex	CMT	Cement
EDX	Ecodex	E	Epoxy
F	Flat	EXM	Expanded Metal Bottom
MT	Empty		

Steel Liners

Steel Liners	Height (inches)	Diameter (inches)	Burial Vol (CF)	Max Internal Vol (CF)	Usable Vol (CF)	Gross Wt (lbs)	Empty Wt (lbs)
L 6-80 MT	57.0	58.0	87.2	82.9	NA	9,900	1,000
L 6-80 CMT	57.0	58.0	87.2	82.9	NA/80	9,900	1,150
L 6-80 IN-SITU	57.0	58.0	87.2	49.8	64/NA	9,900	3,500
L 6-80 FP	57.0	58.0	87.2	82.9	62/NA	9,900	1,050
L 6-80 FP/FEDX	57.0	58.0	87.2	82.9	NA	9,900	1,225
L 8-120 MT	74.0	61.0	125.2	120.2	NA	14,500	1,200
L 8-120 CMT	74.0	61.0	125.2	120.2	NA/117	14,500	1,350
L 8-120 IN-SITU	74.5	61.0	126.0	80.3	NA	14,500	4,200
L 8-120 FR	74.0	61.0	125.2	120.2	114/NA	14,500	1,250
L 8-120 FP/FEDX	74.0	61.0	125.2	120.2	112/NA	14,500	1,325
L 14-170 TVA	73.25	69.0	158.5	151.3	NA/147	20,750	1,450
L 14-170 MT	71.375	74.5	180.1	172.7	NA	20,750	1,550
L 14-170 CMT	71.375	74.5	180.1	172.7	NA/168	20,750	1,750
L 14-170 IN-SITU	74.0	74.5	186.7	66.1	NA	20,750	TBD
L 14-170 FR	71.375	74.5	180.1	172.7	163/NA	20,750	1,600
L 14-170 FP/FEDX	71.375	74.5	180.1	172.7	160/NA	20750	1750

Steel Liners	Height (inches)	Diameter (inches)	Burial Vol (CF)	Max Internal Vol (CF)	Usable Vol (CF)	Gross Wt (lbs)	Empty Wt (lbs)
L 14-195 MT	79.0	76.0	207.4	199.6	NA	23700	1650
L 14-195 CMT	79.0	76.0	207.4	199.6	NA/195	23700	1850
L 14-195 IN-SITU	78.5	76.0	206.1	138.5	NA	23700	6300
L 14-195 FR	79.0	76.0	207.4	199.6	190/NA	23700	1700
L 14-195 FP/FEDX	79.0	76.0	207.4	199.6	187/NA	23700	1850
L 21-300 MT	108.0	82.0	330.1	320.6	NA	27250	2200
L 21-300 FP/FEDX	108.0	82.0	330.1	320.6	303/NA	27250	2450
1-13G INSERT	43.75	19.25	7.4	6.2	6.2/NA	5000	300
1-13 LINER	51.375	25.0	14.6	14.6	12/NA	5000	500
3-55 LINER	109.25	34.0	57.4	57.4	52/NA	7800	945
PV-24-79	78.875	24.0	20.7	18.3	16/NA	1900	570
PV-24-72	72.0	24.0	18.8	16.6	14/NA	1750	530
PV-24-51	51.0	24.0	13.4	11.3	9/NA	1150	415

Prefix		Suffix	
ES	Enviro Steel	O.T.	Open Top

Carbon & Stainless Steel	Height (inches)	Diameter (inches)	Burial Vol (CF)	Max Internal Vol (CF)	Gross Wt (lbs)	Empty Wt (lbs)
ES-50	51.00	47.25	52.00	49.30	4,200	250
ES-142	69.75	63.50	128.3	122.20	10,000	1,100
ES-190	71.00	72.50	170.2	162.40	16,800	1,285
ES-210	78.25	74.75	199.4	191.00	20,000	1,475
ES-210 O.T.	79.00	75.00	202.00	189.50	20,000	1,710

Steel Wide-Mouth Liners

**Non-Stackable, Wide Mouth Steel Liner, Standard and In-Situ, Slings or Grapple
Large Diameter Round Lid, Bolt On**

Steel Wide Mouth	Height (inches)	Diameter (inches)	Opening Diameter (inches)	Empty Weight (lbs)	Gross Weight (lbs)	Max Internal (CF)
L6-80	57	58	47 7/8	*	*	82.9
L8-120	74	61	50 7/8	*	*	120.2
L14-170	72 1/4	74 1/2	64 3/8	*	*	172.7
L14-195	78 1/2	76	65 7/8	*	*	199.6

Non-Stackable, Steel, Square Lid (low profile) Liner, Slings Only, Bolt on lid

Steel Wide Mouth	Height (inches)	Diameter (inches)	Opening Square (in ²)	Empty Weight (lbs)	Gross Weight (lbs)	Max Internal (CF)
L6-80	54	58	32 x 32	*	*	82.9
L8-120	71 1/2	61	36 x 36	*	*	120.2
L14-170	67 7/8	74 1/2	48 x 48	*	*	172.7
L14-195	75 1/2	76	48 x 48	*	*	199.6
L21-300	104 1/2	82	56 x 56	*	*	320.6

*Gross and empty weights are very close to the same size MT container configuration.

Non-Stackable, Steel Wide Mouth Liner, Round Raised Lid, Bolt On, Slings Only

Steel Wide Mouth	Height (inches)	Diameter (inches)	Opening Diameter (inches)	Empty Weight (lbs)	Gross Weight (lbs)	Max Internal (CF)
L6-80	52	58	43	1102	10,052	82.5
L8-120	69 1/2	61	46	1275	14,675	118
L14-170	67 3/8	74 1/2	59 1/2	1830	21,030	175
L14-195	73 1/2	76	61	1945	22,050	198
L21-300	102 1/2	82	67	2550	27,600	317

Liner & Cask Compatibility Table

Liners	Max Height (inches)	Max Diameter (inches)	Burial Volume (CF)	Cask Compatibility	Cask Shield Equiv & Max R/hr
PL 6-80	57.5	60	83.4	6-80	5.0"/1.860R/hr
EL-50	51.0	47.0	51.2	6-80	5.0"/1.860R/hr
PL 8-120	74.5	61.75	120.3	8-120A or B	4.5"/880R/hr.
EL-142	70.0	64.5	132.4	EL-142 – will not fit in 8-120 cask because of ht. 8-120 liner will not fit in OH-142 cask because of diameter. Difference bet. 10-160B interior hgt and liner is 7".	3.13"/78 R/hr. (10-160B)
PL 14-170	72.75	75.5	170.8	14-170	2.13"/15R/hr.
NUHIC-136	71	65	136.3	14-170 w/shoring	2.13"/15R/hr.
EL-190	71	73.5	174.3	14-170 series II or III	2.13"/15R/hr.
Radlok P-500	71.0	71.1	163.3	14-170 14-195 14-215 w/shoring	2.13"/15R/hr. 2.75"/21R/hr. 2.73"/20R/hr.
PL 14-195	79.5	76.75	194.1	14-195	2.75"/21R/hr.
EL-210	78.0	75.5	176.7	14-195 14-215	2.75"/21R/hr. 2.73"/20R/hr.
Radlok P-195	79.5	73.5	195.2	14-195 14-215	2.75"/21R/hr. 2.73"/20R/hr.
PL 14-215	79.5	76.75	205.8	14-215	2.73"/20R/hr.
EL-210	78.0	75.5	202.1	14-195 14-215	2.75"/21R/hr. 2.73"/20R/hr.
Radlok P-179	72.9	73.5	178.9	14-195 14-215	2.75"/21R/hr. 2.73"/20R/hr.
Radlok P-195	79.5	73.5	195.2	14-215	2.73"/20R/hr.
PL 21-300	108.5	82.75	314.2	21-300	1.5"/1.9R/hr.

*Note: If using grapple bails, or steel inserts, listed liner may not fit. Consult Transportation and Liner Operations prior to ordering a shipping cask.

Liners

Liner (OP-Overpack)	Max Height (inches)	Max Diameter (inches)	Opening Diameter (inches)	Max Internal Volume (CF)	Burial Volume (CF)	Empty Weight (lbs)
60 gal (OP)	35	25.5	NA	8.4	10.2	125
Small OP	57	34	NA	23.8	28	250
Medium OP	78	34	NA	33.5	38.3	305
246 gal OP	74.25	34	NA	32.7	36.5	285
PL 6-80	57.5	60	22.5	73.3	83.4	500
1-13G	43.75	19.25	NA	6.2	7.4	300
1-13	51.375	25	NA	12.5	14.6	500
3-55	72	24	NA	16.6	18.8	945
NUHIC-55 (OP)	41.62	31	27	14.8	18.8	65
EL-50	51.0	47.0	25	41	51.2	500
PL 8-120	74.5	61.75	22.5	107.6	120.3	600
EL-142	70.0	64.5	25	113.6	132.4	650
PL10-160	76.25	67.5	22.5	129.8	145.8	825
PL 14-170	72.75	75.25	22.5	150.3	170.8	800
NUHIC-136	71	65	22	127	136.3	600
EL-190	71	73.5	25	150.6	174.3	800
Radlok P-500	71.0	71.1			163.3	695
PL 14-195	79.5	76.75	22.5	171.4	194.1	850
PL 14-215	79.5	76.75	22.5	189.2	205.8	1200
EL-210	78.0	75.5	25		202.1	900
Radlok P-179	72.9	73.5			179.4	1090
Radlok P-195	79.5	73.5			195.7	1150
PL 21-300	108.5	82.75	22.5	285.1	314.2	1100

Cask and Liner Compatibility Table

Cask	Shielding Equiv/Max Rad Level Limit (R/hr)	Type	Internal Dimension (Height x Diameter) (inches)	Payload (lbs)	Compatible Liners
6-80-2	5.0/1,860	DOT-7A	58 x 59	7,500	6-80
6/100L	6.00/	DOT-7A	62 x 61	12,000	6-80
6/100H	6.00/	DOT-7A	62 x 61	12,000	6-80
8-120	4.5/880	DOT-7A	75 x 62	20,000	8-120, 6-80*
8-120	4.5/880	B	75 x 62	14,680	8-120, 6-80*
10/140	3.6/	DOT 7A	73 x 66	15,000	6-80*
10-140 MB	3.25/	B	73 x 66	15,000	6-80*
10-142	4.25/350	CoC Expired	72 x 66	10,000	6-80*
10-160	3.13/78	B	75 x 67	14,500	8-120, 6-80*
14-170-II	2.13/15	DOT-7A	73.25 x 75.5	14,000	14-170, 14-150*, 7-100*, 6-80*
14-170 III	2.13/15	DOT-7A	73.25 x 75.5	17,500	
14/190L	2.00/7	DOT-7A	73.38 x 75.5	20,000	14-170, 14-150*, 7-100*, 6-80*
14/190M	2.25/10	DOT-7A	73.38 x 75.5	20,000	14-170, 14-150*, 7-100*, 6-80*
14/190H	3.50/150	DOT-7A	73.38 x 75.5	20,000	14-170, 14-150*, 7-100*, 6-80*
14-190H	3.50/60	DOT-7A	73.38 x 75.5	20,000	14-170, 14-150*, 7-100*, 6-80*
14-195H	2.75/21	DOT-7A	80 x 77	17,700	14-215, 14-195, 14-170*, 14-150*, 8-120*, 7-100* 6-80*
14/210L	2.00/7	DOT-7A	80.25 x 77.25	20,000	14-215, 14-195, 14-170*, 14-150*, 8-120*, 7-100* 6-80*
14/210H	2.73/20	DOT-7A	80.25 x 77.25	20,000	14-215, 14-195, 14-170*, 14-150*, 8-120*, 7-100* 6-80*
14-215H	2.73/20	DOT-7A	80.25 x 77.25	20,000	14-215, 14-195, 14-170*, 14-150*, 8-120*, 7-100* 6-80*
21-300	1.5/1.9	DOT-7A	109 x 83	27,250	21-300, 14-215*14-195*, 14-170*, 14-150*, 8-120*, 7-100*, 6-80*

* Proper shoring must be installed in cask.