Overview 7.1

Summary
This chapter contains procedures for the valuation of commercial tanks and reservoirs.

SAMA's 2019 Cost Guide provides directions for the valuation of property by the cost approach; it does not have the force of law.

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

This information is available for purchase by contacting:

Technical Standards and Policy Division
Saskatchewan Assessment Management Agency
200 – 2201 – 11th Avenue
Regina, Saskatchewan S4P 0J8

Phone: (306) 924-8000
Toll Free: 1-800-667-SAMA (7262)
Fax: (306) 924-8070

Email: info.request@sama.sk.ca

Web Site: http://www.sama.sk.ca

Underground Fuel Tank (S805) 7.2

Occupancy Description
Underground fuel tanks used to store automotive and other fuels at service stations and other facilities used to fuel vehicles. The rates are averages for completely installed, fibreglass and steel tanks, including installation, fittings, excavation and backfill. The rates do not include piping.

Structural Components

Tanks: Rate $/imp. gal.

Volume		Fibreglass		Steel		Fibre Coated Steel	
imp. gal.	USG	Single Wall	Double Wall	Single Wall	Double Wall	Single Wall	Double Wall
≤ 250	300						
458	550						
833	1,000						
1,665	2,000						
2,498	3,000						
3,331	4,000						
4,163	5,000						
4,996	6,000						
6,662	8,000						
8,327	10,000						
9,992	12,000						
12,490	15,000						
16,654	20,000						
20,817	25,000						
24,981	30,000						
≥ 41,635	50,000						

Foundation:
Add $ / cubic foot for concrete slab foundation.

Tank Adjustments:
For multiple installations with two or more tanks in one hole, consider the largest tank in the hole as the base and deduct % for each extra tank.

Description	Rate (per tank)
Multiple Tank Installation (2 or more tanks in 1 hole)	
Leakage Monitoring System	
Multi-compartment Tanks	

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Underground Fuel Tank (S805) 7.2

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2)		
a_1 Tank Cost	7.2	1
a_2 Tank Volume (imp. gal.)	3.3	1-2
b) Foundation = (b_1 x b_2)		
b_1. Foundation Area (cu. ft.)		
b_2. Foundation Rate	7.2	1
c) Tank Adjustments	7.2	1
d) Value Subtotal = (a + b +/- c)		
e) Incomplete Construction Factor	3.6	1
f) Replacement Cost New = d - (d x e)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Steel Fuel Tanks

Fibreglass Fuel Tanks

Horizontal Bulk Storage Tank (S806) 7.3

Occupancy Description

Horizontal bulk storage tanks are containers, usually designed for storing a multitude of different products and come in a range of sizes. These are tanks used for various applications including: food processing, oil, water storage, chemical, waste, fuel, etc. The costs are averages for completely installed tanks, including saddles or legs, secondary containment (on tanks greater than 1,000 imp. gal.), and fittings on a foundation.

Structural Components

Steel Tanks: Rate $/imp. gal.

Capacity (imp. gal.)	USG	Rate ($/imp. gal.)
≤ 833	1,000	
1,249	1,500	
1,665	2,000	
2,498	3,000	
3,331	4,000	
4,163	5,000	
4,996	6,000	
6,245	7,500	
8,327	10,000	
10,409	12,500	
12,490	15,000	
16,654	20,000	
20,817	25,000	
≥ 24,981	30,000	

Fibreglass or Polyethylene (Plastic) Tanks: Rate $/imp. gal.

Capacity (imp. gal.)	USG	Rate ($/imp. gal.)
≤ 104	125	
208	250	
416	500	
625	750	
833	1,000	
1,249	1,500	
1,665	2,000	
≥ 2,082	2,500	

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Horizontal Bulk Storage Tank (S806) 7.3

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2)		
a_1. Tank Cost	7.3	1
a_2. Tank Volume (imp. gal.)	3.3	1-2
b) Incomplete Construction Factor	3.6	1
c) Replacement Cost New = a - (a x b)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Steel Bulk Storage Tanks

Horizontal Bulk Storage Tank (S806) 7.3

Fiberglass or Polyethylene (Plastic) Bulk Storage Tanks

Vertical Bulk Storage Tank (S807) 7.4

Occupancy Description
Vertical bulk storage tanks are designed for storing a multitude of different products and come in a range of sizes. These are tanks used for various applications including: food processing, oil, water storage, chemical, waste, fuel, etc.

Welded Steel Tanks: Rate $/imp. gal.
Costs are averages for mild steel welded tanks, including sand and gravel foundations, secondary containment (on tanks greater than 1,000 imp. gal.), fittings and roof. Concrete slab foundations are an additional cost per cubic foot.

imp. gal.	USG	Rate	Capacity	USG	Rate
≤ 833	1,000		12,490	15,000	
1,249	1,500		16,654	20,000	
1,665	2,000		24,981	30,000	
3,331	4,000		33,308	40,000	
4,163	5,000		41,635	50,000	
6,245	7,500		≥ 49,962	60,000	
8,327	10,000				

Bolted Tanks: Rate $/imp. gal.
Costs are averages of 10 to 12 Gauge bolted galvanized tanks, including sand and gravel foundations, secondary containment (on tanks greater than 1,000 imp. gal.), fittings and roof. Concrete slab foundations are an additional cost per cubic foot.

imp. gal.	USG	Rate	Capacity	USG	Rate
≤ 833	1,000		12,490	15,000	
1,665	2,000		16,654	20,000	
2,498	3,000		24,981	30,000	
3,331	4,000		33,308	40,000	
4,163	5,000		41,635	50,000	
6,245	7,500		≥ 49,962	60,000	
8,327	10,000				

Fibreglass or Polyethylene (Plastic) Tanks: Rate $/imp. gal.
Costs are averages for fibreglass or polyethylene tanks, including sand and gravel foundations, secondary containment (on tanks greater than 1,000 imp. gal.), fittings and roof. Concrete slab foundations are an additional cost per cubic foot.

imp. gal.	USG	Rate	Capacity	USG	Rate
≤ 416	500		3,331	4,000	
625	750		4,163	5,000	
833	1,000		5,413	6,500	
1,249	1,500		7,494	9,000	
1,665	2,000		9,992	12,000	
2,082	2,500		13,323	16,000	
2,498	3,000		≥ 16,654	20,000	

Vertical Bulk Storage Tank (S807) 7.4

Foundation:
Add $ / cubic foot for concrete slab foundation.

Stairways, Walkways and Stiles

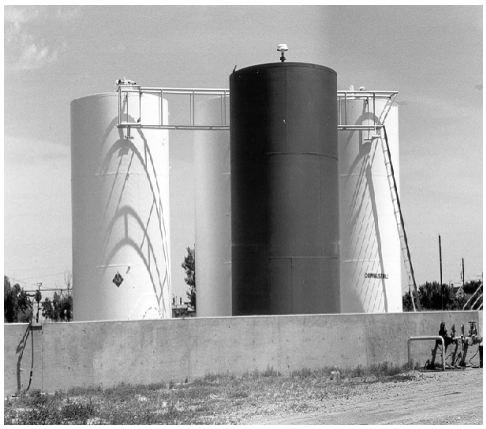
Description	Rate ($/unit)
Stairways	3,820
Walkways	7,110
Stiles	3,890

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Calculation Procedure

Description	No.	Page No.
a Base Rate = (a_1 x a_2)		
a_1. Tank Cost	7.4	1
a_2. Tank Volume (imp. gal.)	3.3	1-2
b) Foundation = (b_1 x b_2)		
b_1. Foundation Area (cu. ft.)		
b_2. Foundation Rate	7.4	2
c) Value Subtotal = (a + b)		
d) Incomplete Construction Factor	3.6	1
e) Value Subtotal = c - (c x d)		
f) Stairways, Walkways and Stiles	7.4	2
g) Replacement Cost New = (e + f)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.



Welded Steel Tanks

Welded Steel Tank

Bolted Tank

Polyethylene (Plastic) Tank

Fibreglass Tank

Welded Steel Pressure Tank (S808) 7.5

Occupancy Description
Welded construction tanks used to store gaseous products under pressure.

The rates are for complete installation of tanks on legs or saddle pads, including normal fittings, spot x-ray, primer and fabrication drawings. The rates do not include pipes, valves or foundation.

Structural Components

Tanks: Rate $/USG

Volume		Tank Rate ($/USG)
imp. gal.	USG	
104	≤ 125	
208	250	
416	500	
833	1,000	
1,249	1,500	
1,665	2,000	
2,082	2,500	
2,498	3,000	
3,331	4,000	
5,413	6,500	
7,494	9,000	
9,992	12,000	
12,490	15,000	
16,654	20,000	
24,981	30,000	
37,471	45,000	
49,962	60,000	
74,943	≥ 90,000	

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Welded Steel Pressure Tank (S808) 7.5

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2)		
a_1. Tank Cost	7.5	1
a_2. Tank Volume (USG)	3.3	1-2
b) Incomplete Construction Factor	3.6	1
c) Value Subtotal = a - (a x b)		
d) Stairways, Walkways and Stiles	7.4	2
e) Replacement Cost New = (c + d)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Refinery and Pipeline Storage Tank (S810) 7.6

Occupancy Description
Large storage tanks are used for the storage of oil or gas at refineries, upgraders and pipeline stations.

Welded Steel Tanks
The rates include tank, installation, sand or gravel foundation, secondary containment, steel ring curb, and include cone roof with supports, outside ladder, roof and shell manholes, threaded and/or flanged openings, roof vents and paint. The rates do not include catwalks, stairways, and platforms.

Structural Components

Tanks: Rate $/barrel

Volume (barrels)	Rate ($/barrel)
≤ 2,000	
3,000	
4,000	
5,000	
7,500	
10,000	
15,000	
20,000	
30,000	
50,000	
75,000	
100,000	
125,000	
150,000	
200,000	
250,000	
300,000	
350,000	
400,000	
≥ 500,000	

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Refinery and Pipeline Storage Tank (S810) 7.6

Roof

Description	Rate ($/diameter ft.)
Pontoon	
Double Deck	

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1)		
a_1. Tank Rate	7.6	1
b) Tank Volume (barrel)	3.3	1-2
c) Value Subtotal = (a x b)		
d) Incomplete Construction Factor	3.6	1
e) Value Subtotal = c - (c x d)		
f) Roof Structure = (f_1 x f_2)		
f_1. Roof Structure Rate	7.6	2
f_2. Roof Diameter		
g) Value Subtotal = (e + f)		
h) Stairways, Walkways and Stiles	7.4	2
i) Replacement Cost New = (g + h)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Pressure Tank (S811) 7.7

Occupancy Description

Pressure tanks are typically located at refineries and upgraders. They are used for the storage of liquids and gas under pressure. The rates are averages including tank, installation, structural supports, normal foundation, secondary containment, and appurtenant equipment. The rates do not include catwalks, stairways, and platforms.

Structural Components

Spherical Tanks: Rate $/barrel

Volume		
Cu. Ft.	Barrels	Rate ($/barrel)
4,190	≤ 746	
8,180	1,457	
14,135	2,517	
22,450	3,998	
33,510	5,967	
47,715	8,497	
65,450	11,655	
113,095	≥ 20,139	

Hemispherical Tanks: Rate $/barrel

Volume		Rate ($/barrel)		
USG	Barrels	5 psi W.P.	10 psi W.P.	25 psi W.P.
105,000	≤ 2,500			
210,000	5,000			
420,000	10,000			
840,000	≥ 20,000			

Dewar Tanks (Cryogenic): Rate $/barrel

Volume		Vertical	Horizontal
USG	Barrels	$/barrel	$/barrel
500	≤ 12		
1,000	24		
3,000	71		
6,000	143		
9,000	214		
12,000	≥ 285		

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Pressure Tank (S811) 7.7

Calculation Procedure

Description	No.	Page No.
a) Base Rate		
a_1. Tank Cost	7.7	1
b) Tank Volume (barrel)	3.3	1-2
c) Value Subtotal = (a_1 x b)		
d) Incomplete Construction Factor	3.6	1
e) Value Subtotal = c - (c x d)		
f) Stairways, Walkways and Stiles	7.4	2
g) Replacement Cost New = (e + f)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Stainless Steel Tank (S812) 7.8

Occupancy Description

Tanks made of stainless steel are used to hold and store a variety of substances including food, beverages, chemicals, gas and water. They are usually cylindrical, like drums, but their shape and orientation often varies - tanks are either horizontal or vertical and come in a wide range of sizes. Tanks that are made of stainless steel are designed to not retain any odours and can be cleaned easily as any residues can be easily scraped off. They are built to last a long time against corrosion, cracking and flaking.

The rates include tank, installation and normal fittings.

Structural Components

Vertical Stainless Steel Tanks: Rate $/imp. gal.

Volume		Vertical Rate
imp. gal.	USG	($/imp. gal.)
≤ 833	1000	
1,249	1,500	
1,665	2,000	
3,331	4,000	
4,163	5,000	
6,245	7,500	
8,327	10,000	
12,490	15,000	
16,654	20,000	
24,981	30,000	
33,308	40,000	
41,635	50,000	
≥ 49,962	60,000	

Horizontal Stainless Steel Tanks: Rate $/imp. gal.

Volume		Horizontal Rate
imp. gal.	USG	($/imp. gal.)
≤ 833	1,000	
1,249	1,500	
1,665	2,000	
2,498	3,000	
3,331	4,000	
4,163	5,000	
4,996	6,000	
6,245	7,500	

Horizontal Stainless Steel Tanks (continued)

Volume		Horizontal Rate
imp. gal.	USG	($/imp. gal.)
8,327	10,000	
10,409	12,500	
12,490	15,000	
16,654	20,000	
20,817	25,000	
24,981	30,000	

Stainless Steel Pressurized Tanks: Rate $/USG

A cylindrical or spherical metal container designed to hold gases or liquids under pressure.

Volume		Rate
imp. gal.	USG	($/USG)
104	≤ 125	
208	250	
416	500	
833	1,000	
1,249	1,500	
1,665	2,000	
2,082	2,500	
2,498	3,000	
3,331	4,000	
5,413	6,500	
7,494	9,000	
9,992	12,000	
12,490	15,000	
16,654	20,000	
24,981	30,000	
37,471	45,000	
49,962	60,000	
74,943	≥ 90,000	

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Stainless Steel Tank (S812) 7.8

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2)		
a_1. Tank Cost	7.8	1-2
a_2. Tank Volume	3.3	1-2
b) Incomplete Construction Factor	3.6	1
c) Value Subtotal = a - (a x b)		
d) Stairways, Walkways and Stiles	7.4	2
e) Replacement Cost New = (c + d)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Horizontal Stainless Steel Tank

Pressurized Stainless Steel Tank

Vertical Stainless Steel Tank

Above Ground Fuel Tank (S815) 7.9

Occupancy Description
Above ground single or double walled fuel tanks used to store automotive and other fuels at service stations and other facilities used to fuel vehicles.

Structural Components

General Fuel Storage Tanks: Rate $/imp. gal.
Costs are averages for U.S. listed steel tanks completely installed, including paint, manhole if needed, primary and emergency venting, skid or saddles. Sizes are approximate averages of all tank types

Volume		Single Compartment		Dual Compartment	
imp. gal.	USG	Single Wall	Double Wall	Single Wall	Double Wall
≤ 458	550				
833	1,000				
1,665	2,000				
3,331	4,000				
4,164	5,000				
4,996	6,000				
6,662	8,000				
8,327	10,000				
9,992	12,000				
12,491	15,000				
≥ 16,654	20,000				

Vaulted Fuel Tanks: Rate $/imp. gal.
Costs are averages for UL-listed cylindrical internal steel tanks encased inside a Precast concrete vault (i.e. vaulted), providing a 2-hour fire wall and ballistic protection. This category includes the Fireguard tank, which is the new generation of fire-rated tanks which also have a secondary containment shell. Costs include support legs, fittings and installation on the foundation.

Volume		Single Compartment		Dual Compartment	
imp. gal.	USG	Single Wall	Double Wall	Single Wall	Double Wall
≤ 250	300				
458	550				
833	1,000				
1,665	2,000				
3,331	4,000				
4,996	6,000				
6,662	8,000				
8,327	10,000				
9,992	12,000				
12,491	15,000				
16,654	20,000				
≥ 20,817	25,000				

Above Ground Fuel Tank (S815) 7.9

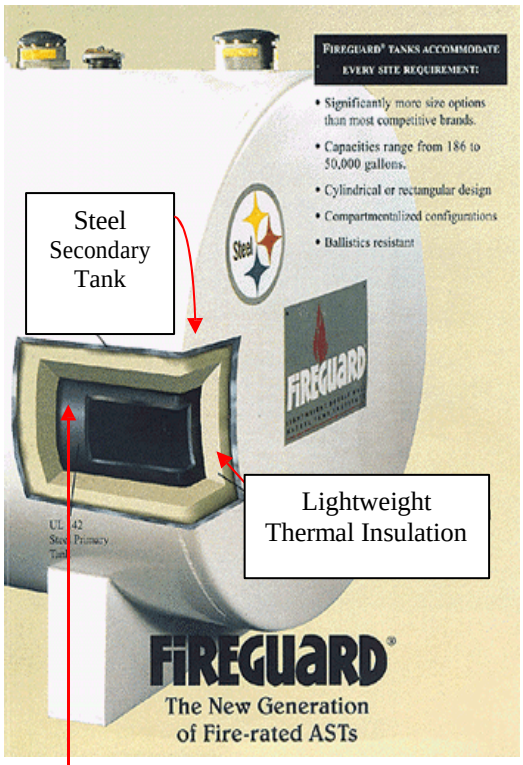
Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2)		
a_1. Tank Cost	7.9	1
a_2. Tank Volume (imp. gal.)	3.3	1-2
b) Incomplete Construction Factor	3.6	1
c) Replacement Cost New = c - (c x d)		
d) Stairways, Walkways and Stiles	7.4	2
e) Replacement Cost New = (c + d)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

General Fuel Storage Tanks

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.



Vaulted Fuel Tanks

Encased in concrete

Fireguard Steel Tank

Wood Water Tank (S820) 7.10

Occupancy Description
Wood tanks constructed of redwood or fir and used to store water or other liquid products.

The rates include tank and installation. Smaller tanks up to 10,000 gallons have 2" staves; larger tanks have 3" staves. The rates do not include the tower for elevated tanks.

Structural Components

Tanks: Rate $/imp. gal.

Volume		Tank Rate ($/imp. gal.)	Cover (Roof) Rate ($/cover)		Ladder Rate ($/ladder)	
imp. gal.	USG		Flat	Conical	Wood	Steel
≤ 167	200					
250	300					
416	500					
833	1,000					
1,249	1,500					
1,665	2,000					
2,498	3,000					
3,331	4,000					
4,164	5,000					
6,245	7,500					
8,327	10,000					
12,490	15,000					
16,654	20,000					
24,981	30,000					
41,635	50,000					
62,453	75,000					
83,270	100,000					
124,905	150,000					
≥ 166,540	200,000					

Foundation:
Add $ / cubic foot for concrete slab foundation.

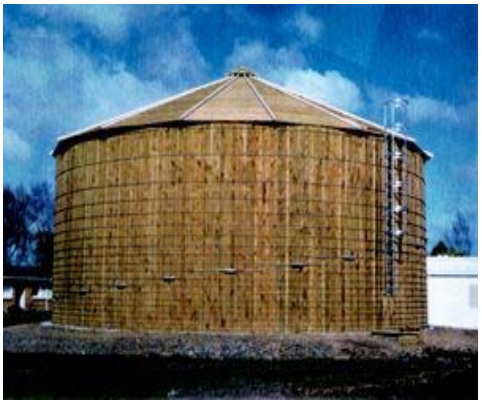
Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Wood Water Tank (S820) 7.10

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2) + a_3 + a_4		
a_1. Tank Cost	7.10	1
a_2. Tank Volume (imp. gal.)	3.3	1-2
a_3. Cover Rate	7.10	1
a_4. Ladder Rate	7.10	1
b) Foundation = (b_1 x b_2)		
b_1. Foundation Area (cu. ft.)		
b_2. Foundation Rate	7.10	1
c) Value Subtotal = (a + b)		
d) Incomplete Construction Factor	3.6	1
e) Replacement Cost New = c - (c x d)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.



Galvanized Steel Water Tank (S821) 7.11

Occupancy Description

Galvanized steel tanks constructed of 13 to 20 gauge corrugate steel and used to store water or other liquid products. The costs are averages for coated, corrugated steel tanks. Rates include conical roof with manhole, freight and typical accessories. For elevated tanks, add tower cost. Concrete slab foundations are an additional cost per cubic foot.

Structural Components

Tanks: Rate $/imp. gal.

Volume		Tank Rate ($/imp. gal.)
imp. gal.	USG	
≤ 416	500	
833	1,000	
1,665	2,000	
2,498	3,000	
3,331	4,000	
4,164	5,000	
6,245	7,500	
8,327	10,000	
12,491	15,000	
16,654	20,000	
24,981	30,000	
41,635	50,000	
62,453	75,000	
≥ 83,270	100,000	

Foundation:

Add $ / cubic foot for concrete slab foundation.

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Galvanized Steel Water Tank (S821) 7.11

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2)		
a_1. Tank Cost	7.11	1
a_2. Tank Volume (imp. gal.)	3.3	1-2
b) Foundation = (b_1 x b_2)		
b_1. Foundation Area (cu. ft.)		
b_2. Foundation Rate	7.11	1
c) Value Subtotal = (a + b)		
d) Incomplete Construction Factor	3.6	1
e) Replacement Cost New = c - (c x d)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Water Tank Tower (S822) 7.12

Occupancy Description
Towers used to elevate wood or galvanized steel water storage tanks up to 100 feet above the ground.

The rates include the cost of erection, installation, footings, pipe to ground, valve, balcony, ladder to balcony, and indicator gauge. The rates do not include the cost of the tank.

Structural Components

Tower: Rate $/imp. gal.

Volume		Rate ($/imp. gal.)				
		Height (ft.)				
imp. gal.	USG	≤ 12	25	50	75	100
≤ 833	1,000					
1,249	1,500					
1,665	2,000					
2,498	3,000					
4,164	5,000					
8,327	10,000					
16,654	20,000					
24,981	30,000					
33,308	40,000					
41,635	50,000					
≥ 62,453	75,000					

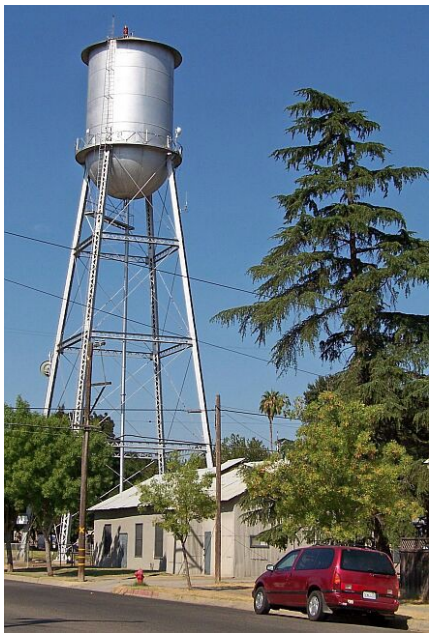
Calculation Procedure

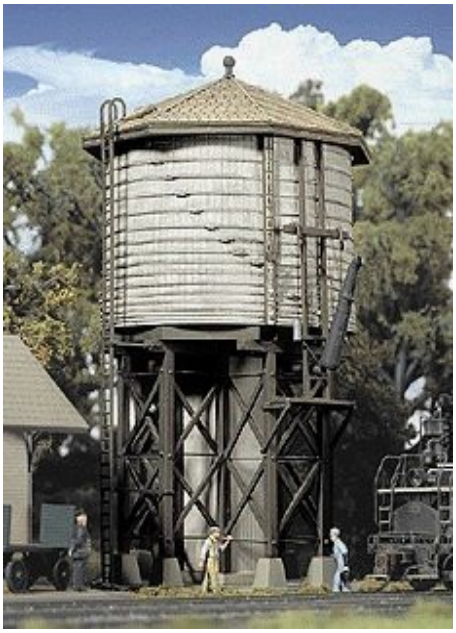
Description	No.	Page No.
a) Base Rate = (a_1 x a_2)		
a_1. Tower Cost	7.12	1
a_2. Tank Volume (imp. gal.)	3.3	1-2
b) Incomplete Construction Factor	3.6	1
c) Replacement Cost New = a - (a x b)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Water Tank Tower (S822) 7.12





Elevated Steel Water Tank (S823) 7.13

Occupancy Description
Steel water tanks and support towers used to elevate the tank up to 150 feet above the ground.

The rates include tank, tower or pedestal, riser pipe, ladder, other equipment normally installed completely erected as well as typical foundations and painting.

Structural Components

Tanks: Rate $/imp. gal.

Volume		Rate ($/imp. gal.)			
		Height (ft.)			
imp. gal.	USG	50	75	100	150
≤ 20,818	25,000				
41,635	50,000				
62,453	75,000				
83,270	100,000				
124,905	150,000				
166,540	200,000				
249,810	300,000				
333,080	400,000				
416,350	500,000				
624,535	750,000				
832,700	1,000,000				
1,249,050	1,500,000				
≥ 1,665,400	2,000,000				

Accessories:
Cathodic protection is a feature used to control the corrosion of a metal surface.

Description	Factor
Cathodic Protection	
Nil	

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Elevated Steel Water Tank (S823) 7.13

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2) x a_3		
a_1. Tank Cost	7.13	1
a_2. Tank Volume (imp. gal.)	3.3	1-2
a_3. Accessories Factor	7.13	1
b) Incomplete Construction Factor	3.6	1
c) Replacement Cost New = a - (a x b)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Welded and Bolted Steel Surface Reservoir (S824) 7.14

Occupancy Description
Steel, reservoirs constructed above ground, typically located at industrial sites, and used to store water or other liquid products.

Structural Components

Welded Steel Reservoirs: Rate $/imp. gal.
The rates are average costs of surface reservoirs including typical accessories such as roofs, ladders, painting, fittings on tank, etc. Sand and gravel foundations with steel retaining rings are included on those of 1,000,000 gallons capacity or less, concrete foundations are included on larger tanks. Concrete foundations are an additional cost.

Volume		Rate ($/imp. gal.)
imp. gal.	USG	
≤ 8,327	10,000	
16,654	20,000	
24,981	30,000	
41,635	50,000	
62,453	75,000	
83,270	100,000	
104,088	125,000	
124,905	150,000	
166,540	200,000	
208,175	250,000	
249,810	300,000	
333,080	400,000	
416,350	500,000	
624,525	750,000	
832,700	1,000,000	
1,249,050	1,500,000	
1,665,400	2,000,000	
2,081,750	2,500,000	
2,498,100	3,000,000	
3,330,800	4,000,000	
4,163,500	5,000,000	
4,996,200	6,000,000	
6,245,250	7,500,000	
≥ 8,327,000	10,000,000	

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Welded and Bolted Steel Surface Reservoir (S824) 7.14

Bolted Steel Reservoirs: Rate $/ imp. gal.
The rates are average costs for factory coated, bolted steel surface reservoirs erected on sand or gravel with a steel ring curb; including typical accessories such as roof, ladders, manways, vents, fittings on tank, and liquid level indicators, etc. Concrete foundations are an additional cost.

Volume		Rate ($/imp. gal.)
imp. gal.	USG	
≤ 8,327	10,000	
24,981	30,000	
83,270	100,000	
104,088	125,000	
124,905	150,000	
166,540	200,000	
249,810	300,000	
333,080	400,000	
416,350	500,000	
499,620	600,000	
749,430	900,000	
≥ 999,240	1,200,000	

Foundation:
Add $ per cubic foot for concrete slab foundation.

Accessories:
Cathodic protection is a feature used to control the corrosion of a metal surface.

Description	Factor
Cathodic Protection	
Nil	

Welded and Bolted Steel Surface Reservoir (S824) 7.14

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2) x a_3		
a_1. Tank Cost	7.14	1-2
a_2. Tank Volume (imp. gal.)	3.3	1-2
a_3. Accessories Factor	7.14	2
b) Foundation = (b_1 x b_2)		
b_1. Foundation Area (cu. ft.)		
b_2. Foundation Rate	7.14	2
c) Value Subtotal = (a + b)		
d) Incomplete Construction Factor	3.6	1
c) Replacement Cost New = c - (c x d)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2

Welded Steel Tank

Concrete Surface Reservoir (S825) 7.15

Occupancy Description
Concrete reservoirs constructed above ground, typically located at industrial sites, and used to store water or other liquid products.

The rates are averages of completely erected surface reservoirs, including installation, foundation, dome roof, and typical tank ancillaries. The rates do not include site work and exterior piping.

Structural Components

Reservoirs: Rate $/ imp. gal.

Volume		Rate ($/imp. gal.)
imp. gal.	USG	
≤ 8,327	10,000	
16,654	20,000	
24,981	30,000	
41,635	50,000	
62,453	75,000	
83,270	100,000	
104,088	125,000	
124,905	150,000	
166,540	200,000	
208,175	250,000	
249,810	300,000	
333,080	400,000	
416,350	500,000	
624,525	750,000	
832,700	1,000,000	
1,249,050	1,500,000	
1,665,400	2,000,000	
2,081,750	2,500,000	
2,498,100	3,000,000	
3,330,800	4,000,000	
4,163,500	5,000,000	
4,996,200	6,000,000	
6,245,250	7,500,000	
≥ 8,327,000	10,000,000	

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

Concrete Surface Reservoir (S825) 7.15

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2)		
a_1. Reservoir Cost	7.15	1
a_2. Reservoir Volume (imp. gal.)	3.3	1-2
b) Incomplete Construction Factor	3.6	1
c) Replacement Cost New = a - (a x b)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

In-Ground Reservoir (S826) 7.16

Occupancy Description
In-ground reservoirs constructed by excavating the earth and lining the excavation with concrete or asphalt and used to store water or other liquid products.

The rates include excavation, concrete or asphalt lining, and wood roof structures.

Structural Components

Reservoirs: Rate $/USG

Rate ($/imp. gal.)	Rate ($/USG)	Rate ($/af.)

Calculation Procedure

Description	No.	Page No.
a) Base Rate = (a_1 x a_2)		
a_1. Reservoir Cost	7.16	1
a_2. Reservoir Volume (USG)	3.3	1-2
b) Incomplete Construction Factor	3.6	1
c) Replacement Cost New = a - (a x b)		

After the replacement cost new (RCN) has been calculated, the assessed value for commercial buildings and structures is determined using the calculation procedures in No. 3.2.

Portions of this chapter are not available for viewing due to licensing with Marshall and Swift. Therefore the classification guidelines, rates and factors etc. have been intentionally left blank.

In-Ground Reservoir (S826) 7.16