



MT – BALLAST TANK UPGRADING PROJECT

CHEMCO SYSTEMS VS STANDARD EPOXIES





Attached project plans and budget calculations are prepared for estimations with estimated real figures. Prices can be change according to different yards offers but more or less these values can be calculate for estimations. During the calculations below, items can be follow with our experience, values and approved calculations.

SA1 & SA2 Blasting Works;

- Each blaster can manage ~ 60m²/shift with 1 nozzle – SA1,
- Each blaster can be manage **50 m²/shift** with 1 nozzle – SA2,
- Each tank maximized to 4 nozzle/shift and daily **600 m²** blasting calculated,
- Total blasting capacities calculated as 16 nozzle/shift for tanks Approx. 1200 KW electric usage for compressors and vacuum collector.
- High-pressure water washing require before blasting for salt, slime or other dirt's removal.
- All washing waters have to be collected before blasting, tank have to be dry condition.
- Grid consumption will be around 500 tons. Used grid should be clean (vacuum cleaning) before coating application (~40 m² of area can be blast with 1 tons of grid for SA1&SA2).

Equipment Lists: Compressors 160KW x 4pcs, vacuum cleaners 75KW x 3 pcs., dehumidifier x 7 pcs., grid tanks & ~500 tons of grid for usage and after completion disposal, water jets (~350 bars), paint pumps.

WATERJETTING (WJ3) Works;

- Each blaster can manage ~ 100 – 150 m²/shift with 1 nozzle ~ WJ3,
- No grid consumption, just water disposal for water jetting.
- Total 4 water jetting machine with 8 nozzles (2 nozzles/machine) with a ~1000 bars capacities. (Diesel machines & electrical machines to be use).

Equipment Lists: Water jets (~1000 bars) x 4pcs with 2 nozzles, paint pumps.



SUMMARY – 20400 m² Rusty Areas in 12 Ballast Tanks

No	Description	Chemcoint with Water jetting (Solvent Free)	Traditional Epoxies with Blasting (Solvent Based)	Difference
1	Safety – Worker	Solvent free	Solvent base, more risk for explosion, lungs etc.	Priceless
2	Surface Preparation Costs (EFES MARINE OFFER IS ~ 25% Cheaper Than Yard)	\$ 410.970 (With Efes Marine \$295.595) (No need any docking for Chemco, Standard docking works can be carry out during Chemco Application.)	\$ 821.713 (With 12 days docking for grid transfers humidity, dew point etc.)	\$ 410.743
3	Product Supply Costs	~\$ 180.000	\$ 120.000 Standard epoxies are cheaper	-\$ 60.000
4	Total Cost Difference (Including docking periods – for Chemcoint no need but budget added)	~ \$ 590.000 (With EFES Marine \$480.000) Even standard epoxy product is free of charge ; surface preparation cost is higher than Chemco full system.	\$ 940.000	\$ 350.000 (With Efes Marine ~\$460.000)
5	Repair Period (For Coating Works)	16.92 days with just 8 nozzles (water jetters) without any delays for standard docking period. Normally Chemco is 1coat but planned calculated 2coat+1stripe.	21.75 Days (13 days docking) with 16 nozzles blasters (During the docking yard may not have enough nozzle).	5 days more yard period. If rain or humidity is high, can be delay more.
6	Certification (IACS)	Class Approval – Fresh Water Tank Approval – Cargo Oil Tank Approval	Class Approval	✓
7	Rain or humidity effects	Application can be carry out without any delay.	Period can be delay because of humidity, flush rust, rain etc.	!
8	Overcoat time for repairs	Unlimited	~ 2 – 3 months for general epoxy systems. After that surface need to be, prepare again for coating repairs.	!
9	Ballasting of time	Product can be cure underwater . Tank can be start for operations after inspection.	1 day – 7 days depends on product and temperature.	!
10	Application Difficulty	Due to limited application time after mixture, paint have to be apply immediately. (30 min. to 1 hour). Controlled application needed.	Solvent content can let the paint dry later. (2 – 4 hour) Easy to apply.	!
11	Loss Factor (To be added for order)	30%	30%	-
12	Labor – Equipment Usage	~Very limited work force to be use. Waterjet 1000 bars x 4 pcs. Waterjet 300 barsx2, – paint pumps.	More work force needed. Waterjet 300 barsx2, Compressors 160KWx4pcs, Dehumidifierx7pcs, Vacuum cleanerx3pcs, paint p. crane etc.	!



Additional Notes:

1. All above prices are given as per est. market prices in Mediterranean and Turkey region. Prices can be different in different locations. Please contact with your yard representatives and paint suppliers for more information. Detail calculations can be share with mail.
2. Solvent based products are effecting hot-works inside the tanks due to it is flammable solvent content. **Explosion risk effect of solvent-based coatings.** If vessel has both steel works and coating works at same location it is hard to manage and can delay total scope. **With Chemco, solvent-free systems steel works (hot work) can be carry out at the same time in nearby locations.**

STANDARD EPOXIES TANK COATING APPLICATION PLAN – NEARBY LOCATION WORKING		
No:1 PS WBT No coating work can be permit.	No:1 Cargo Tank Coating work can be permit.	No:1 STBD WBT No coating work can be permit.
No:2 PS WBT Steel works	No:2 Cargo Tank No coating work can be permit.	No:2 STBD WBT Steel works
No:3 PS WBT No coating work can be permit.	No:3 Cargo Tank Coating work can be permit.	No:3 STBD WBT No coating work can be permit.
No:4 PS WBT Coating work can be permit.	No:4 Cargo Tank Coating work can be permit.	No:4 STBD WBT Coating work can be permit.
No:5 PS WBT Coating work can be permit.	No:5 Cargo Tank Coating work can be permit.	No:5 STBD WBT Coating work can be permit.
CHEMCO SYSTEM TANK COATING APPLICATION PLAN – NEARBY LOCATION WORKING		
No:1 PS WBT Coating work can be permit.	No:1 Cargo Tank Coating work can be permit.	No:1 STBD WBT Coating work can be permit.
No:2 PS WBT Steel works	No:2 Cargo Tank Coating work can be permit.	No:2 STBD WBT Steel works
No:3 PS WBT Coating work can be permit.	No:3 Cargo Tank Coating work can be permit.	No:3 STBD WBT Coating work can be permit.
No:4 PS WBT Coating work can be permit.	No:4 Cargo Tank Coating work can be permit.	No:4 STBD WBT Coating work can be permit.
No:5 PS WBT Coating work can be permit.	No:5 Cargo Tank Coating work can be permit.	No:5 STBD WBT Coating work can be permit.

3. Blasting calculated as nonstop action time but grid transfers with crane will be create huge amount of crane usage during the repair period and may affect other repairs (engine room transfers, deck transfers etc.) **With waterjetting (Chemco solvent-free systems) water transfers can be manage with hose so there will be no additional crane usage. Other repairs will be free to use crane.**

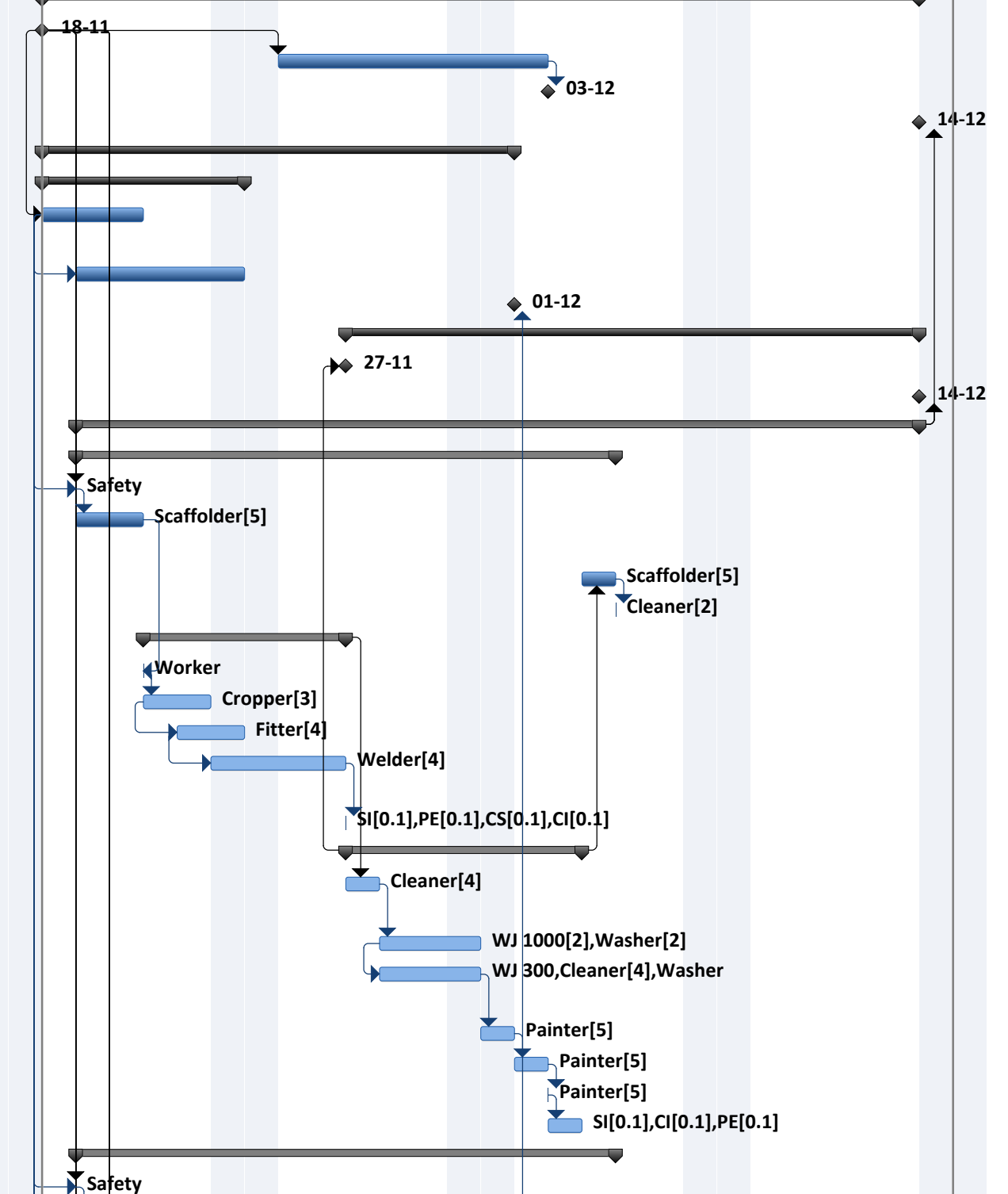
4. Solvent-based systems can be paint during the docking period easily. In high humidity, dehumidifiers have to be use but also it may not be enough in double bottom locations due to limited ventilation. During the rainy days or floating condition and of course because of humidity and dew point tank can delay for painting. [Chemco systems can be apply even on wet surface \(100% humidity is acceptable\).](#)
5. Speed of the waterjetting directly related with nozzle and pump capacities. For manual application, we are using max. pump capacities with www.mvt.ch orbital or [turbo nozzles](#) for to reach powerful surface removal forces with a high standard quality. Nozzle and pump selection is so important for waterjetting quality.
6. For more questions solution@marineindustry.net



Note: Attachements are given for calculation cross checks. All documents are shared for informative purposes. Differences can be seen due to different conditions.

MT - TANKER CAP SURVEY WITH CHEMCO SYSTEMS

ID	Task Name	Duration	Start	Finish	17 Nov '19							24 Nov '19							01 Dec '19							08 Dec '19							15 Dec '19		
					S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M
0	MT - BALLAST TANK UPGRADING PROJECT FOR CAP SURVEY - CHEMCO APPLICATION	25.92 days	18-11-2019	14-12-2019																															
1	Summary	25.92 days	18-11-2019	14-12-2019																															
2	Arrival of the vessel	0 days	18-11-2019	18-11-2019																															
3	Docking of the vessel	8 days	25-11-2019	03-12-2019																															
4	Undocking of the vessel	0 days	03-12-2019	03-12-2019																															
5	Departure of the vessel	0 days	14-12-2019	14-12-2019																															
6	Steel Works (Total ~24.000 kg)	13.5 days	18-11-2019	01-12-2019																															
7	Starting of the steel renewal	5.5 days	18-11-2019	23-11-2019																															
8	Inspection and marking of the tanks with class surveyor & UTM & Coating Inspector & Superintendent	3 days	18-11-2019	21-11-2019																															
9	Drawing preparations as per marking	5 days	18-11-2019	23-11-2019																															
10	Completion of steel renewal	0 days	01-12-2019	01-12-2019																															
11	Coating Works (~20.400 m²) - With Chemco System (2 Coat + 1 Stripe Coat)	16.92 days	27-11-2019	14-12-2019																															
12	Starting of coating works	0 days	27-11-2019	27-11-2019																															
13	Completion of coating works	0 days	14-12-2019	14-12-2019																															
14	Ballast Tank Upgrading Works (Steel & Coating Works) - 12 Tanks	25.42 days	18-11-2019	14-12-2019																															
15	No:1 WBT PS (1700 m² Rusty Area + 2000 kg. Steel Renewal)	15.83 days	18-11-2019	04-12-2019																															
16	Entrance to the tank for safety protections	12 hrs	18-11-2019	19-11-2019																															
17	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	19-11-2019	21-11-2019																															
18	Removal of staging	18 hrs	03-12-2019	04-12-2019																															
19	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	04-12-2019	04-12-2019																															
20	Steel Works - 2000 kg	6.5 days	20-11-2019	27-11-2019																															
21	Transportation of welding equipments, lightening etc. on the location	12 hrs	20-11-2019	21-11-2019																															
22	Cropping of corroded parts as per marking	48 hrs	21-11-2019	23-11-2019																															
23	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019																															
24	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	22-11-2019	26-11-2019																															
25	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	26-11-2019	27-11-2019																															
26	Coating Works	6.33 days	27-11-2019	03-12-2019																															
27	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	27-11-2019	28-11-2019																															
28	Waterjetting of the tanks 750 bars - 1000 bars for min. WJ4 surface quality	72 hrs	28-11-2019	01-12-2019																															
29	Washing of the slime in way of the rusty areas for painting, cleaning of stringers etc.	60 hrs	28-11-2019	30-11-2019																															
30	Application of first coat of RS 500P - Chemco Epoxy	24 hrs	30-11-2019	01-12-2019																															
31	Stripe coat and close up application with RS 500P - Chemco Epoxy	16 hrs	01-12-2019	02-12-2019																															
32	Second coat - RA 500M - Chemco Epoxy	16 hrs	02-12-2019	03-12-2019																															
33	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	03-12-2019	03-12-2019																															
34	No:1 WBT STBD (1700 m² Rusty Area + 2000 kg. Steel Renewal)	16.08 days	18-11-2019	04-12-2019																															
35	Entrance to the tank for safety protections	12 hrs	18-11-2019	19-11-2019																															



www.marineindustry.net	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Progress	
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ID	Task Name	Duration	Start	Finish	17 Nov '19							24 Nov '19							01 Dec '19							08 Dec '19							15 Dec '19						
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36	Installations of staging in way of steel renewal areas or coating locations (350 m ³ /tank)	48 hrs	19-11-2019	21-11-2019	Scaffolder[5]																																		
37	Removal of staging	24 hrs	03-12-2019	04-12-2019	Scaffolder[5]																																		
38	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	04-12-2019	04-12-2019	Cleaner[2]																																		
39	Steel Works - 2000 kg	6.5 days	20-11-2019	27-11-2019	Worker																																		
40	Transportation of welding equipments, lightening etc. on the location	12 hrs	20-11-2019	21-11-2019	Cropper[3]																																		
41	Cropping of corroded parts as per marking	48 hrs	21-11-2019	23-11-2019	Fitter[4]																																		
42	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019	Welder[4]																																		
43	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	22-11-2019	26-11-2019	SI[0.1],PE[0.1],CS[0.1],CI[0.1]																																		
44	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	26-11-2019	27-11-2019	Cleaner[4]																																		
45	Coating Works	6.33 days	27-11-2019	03-12-2019	WJ 1000[2],Washer[2]																																		
46	Mud & Scrap cleaning of the tanks (5m ³ /tank) - included staging controls for coating works	24 hrs	27-11-2019	28-11-2019	WJ 300,Cleaner[4],Washer																																		
47	Waterjetting of the tanks 750 bars - 1000 bars for min. WJ4 surface quality	72 hrs	28-11-2019	01-12-2019	Painter[5]																																		
48	Washing of the slime in way of the rusty areas for painting, cleaning of stringers etc.	60 hrs	28-11-2019	30-11-2019	Painter[5]																																		
49	Application of first coat of RS 500P - Chemco Epoxy	24 hrs	30-11-2019	01-12-2019	Painter[5]																																		
50	Stripe coat and close up application with RS 500P - Chemco Epoxy	16 hrs	01-12-2019	02-12-2019	SI[0.1],CI[0.1],PE[0.1]																																		
51	Second coat - RA 500M - Chemco Epoxy	16 hrs	02-12-2019	03-12-2019	SI[0.1],CI[0.1],PE[0.1]																																		
52	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	03-12-2019	03-12-2019	Safety																																		
53	No:2 WBT PS (1700 m² Rusty Area + 2000 kg. Steel Renewal)	16.08 days	18-11-2019	04-12-2019	Scaffolder[5]																																		
54	Entrance to the tank for safety protections	12 hrs	18-11-2019	19-11-2019	Scaffolder[5]																																		
55	Installations of staging in way of steel renewal areas or coating locations (350 m ³ /tank)	48 hrs	19-11-2019	21-11-2019	Scaffolder[5]																																		
56	Removal of staging	24 hrs	03-12-2019	04-12-2019	Cleaner[2]																																		
57	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	04-12-2019	04-12-2019	Cleaner[2]																																		
58	Steel Works - 2000 kg	6.5 days	20-11-2019	27-11-2019	Worker																																		
59	Transportation of welding equipments, lightening etc. on the location	12 hrs	20-11-2019	21-11-2019	Cropper[3]																																		
60	Cropping of corroded parts as per marking	48 hrs	21-11-2019	23-11-2019	Fitter[4]																																		
61	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019	Welder[4]																																		
62	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	22-11-2019	26-11-2019	SI[0.1],PE[0.1],CS[0.1],CI[0.1]																																		
63	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	26-11-2019	27-11-2019	Cleaner[4]																																		
64	Coating Works	6.33 days	27-11-2019	03-12-2019	WJ 1000[2],Washer[2]																																		
65	Mud & Scrap cleaning of the tanks (5m ³ /tank) - included staging controls for coating works	24 hrs	27-11-2019	28-11-2019	WJ 300,Cleaner[4],Washer																																		
66	Waterjetting of the tanks 750 bars - 1000 bars for min. WJ4 surface quality	72 hrs	28-11-2019	01-12-2019	Painter[5]																																		
67	Washing of the slime in way of the rusty areas for painting, cleaning of stringers etc.	60 hrs	28-11-2019	30-11-2019	Painter[5]																																		
68	Application of first coat of RS 500P - Chemco Epoxy	24 hrs	30-11-2019	01-12-2019	Painter[5]																																		
69	Stripe coat and close up application with RS 500P - Chemco Epoxy	16 hrs	01-12-2019	02-12-2019	Painter[5]																																		

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					[Gantt Chart: Gantt bars for tasks 70-104, including milestones like Safety, Scaffolder[5], Worker, Cropper[3], Fitter[4], Welder[4], SI[0.1], PE[0.1], CS[0.1], CI[0.1], Cleaner[4], WJ 1000[2], Washer[2], Painter[5].]																														
70	Second coat - RA 500M - Chemco Epoxy	16 hrs	02-12-2019	03-12-2019																															
71	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	03-12-2019	03-12-2019																															
72	No:2 WBT STBD (1700 m³ Rusty Area + 2000 kg. Steel Renewal)	18.42 days	18-11-2019	07-12-2019																															
73	Entrance to the tank for safety protections	12 hrs	18-11-2019	19-11-2019																															
74	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	19-11-2019	21-11-2019																															
75	Removal of staging	24 hrs	06-12-2019	07-12-2019																															
76	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	07-12-2019	07-12-2019																															
77	Steel Works - 2000 kg	6.5 days	20-11-2019	27-11-2019																															
78	Transportation of welding equipments, lightening etc. on the location	12 hrs	20-11-2019	21-11-2019																															
79	Cropping of corroded parts as per marking	48 hrs	21-11-2019	23-11-2019																															
80	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019																															
81	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	22-11-2019	26-11-2019																															
82	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	26-11-2019	27-11-2019																															
83	Coating Works	8.67 days	27-11-2019	06-12-2019																															
84	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	27-11-2019	28-11-2019																															
85	Waterjetting of the tanks 750 bars - 1000 bars for min. WJ4 surface quality	72 hrs	28-11-2019	01-12-2019																															
86	Washing of the slime in way of the rusty areas for painting, cleaning of stringers etc.	60 hrs	28-11-2019	30-11-2019																															
87	Application of first coat of RS 500P - Chemco Epoxy	24 hrs	03-12-2019	04-12-2019																															
88	Stripe coat and close up application with RS 500P - Chemco Epoxy	16 hrs	04-12-2019	04-12-2019																															
89	Second coat - RA 500M - Chemco Epoxy	16 hrs	04-12-2019	05-12-2019																															
90	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	05-12-2019	06-12-2019																															
91	No:3 WBT PS (1700 m³ Rusty Area + 2000 kg. Steel Renewal)	19.08 days	19-11-2019	08-12-2019																															
92	Entrance to the tank for safety protections	12 hrs	19-11-2019	19-11-2019																															
93	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	19-11-2019	21-11-2019																															
94	Removal of staging	24 hrs	07-12-2019	08-12-2019																															
95	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	08-12-2019	08-12-2019																															
96	Steel Works - 2000 kg	6.5 days	21-11-2019	27-11-2019																															
97	Transportation of welding equipments, lightening etc. on the location	12 hrs	21-11-2019	21-11-2019																															
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99	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019																															
100	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	23-11-2019	27-11-2019																															
101	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	27-11-2019	27-11-2019																															
102	Coating Works	6.33 days	30-11-2019	07-12-2019																															
103	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	30-11-2019	01-12-2019																															
104	Waterjetting of the tanks 750 bars - 1000 bars for min. WJ4 surface quality	72 hrs	01-12-2019	04-12-2019																															

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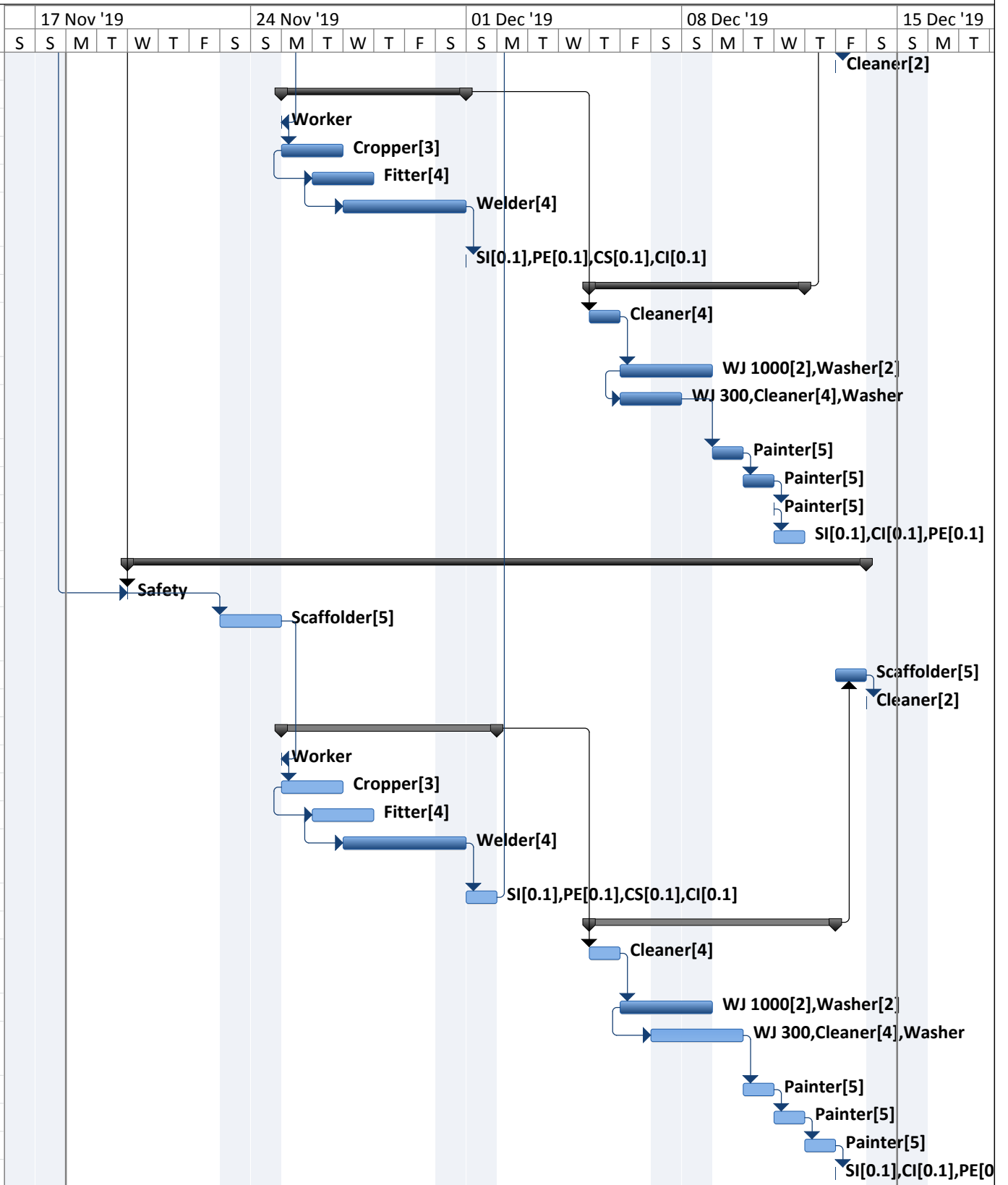
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140	Coating Works	7.5 days	30-11-2019	08-12-2019																																			
141	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	30-11-2019	01-12-2019																																			
142	Waterjetting of the tanks 750 bars - 1000 bars for min. WJ4 surface quality	72 hrs	01-12-2019	04-12-2019																																			
143	Washing of the slime in way of the rusty areas for painting, cleaning of stringers etc.	60 hrs	01-12-2019	04-12-2019																																			
144	Application of first coat of RS 500P - Chemco Epoxy	24 hrs	05-12-2019	06-12-2019																																			
145	Stripe coat and close up application with RS 500P - Chemco Epoxy	16 hrs	06-12-2019	07-12-2019																																			
146	Second coat - RA 500M - Chemco Epoxy	16 hrs	07-12-2019	07-12-2019																																			
147	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	07-12-2019	08-12-2019																																			
148	No:4 WBT STBD (1700 m² Rusty Area + 2000 kg. Steel Renewal)	21.42 days	19-11-2019	10-12-2019																																			
149	Entrance to the tank for safety protections	12 hrs	19-11-2019	19-11-2019																																			
150	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	21-11-2019	23-11-2019																																			
151	Removal of staging	24 hrs	09-12-2019	10-12-2019																																			
152	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	10-12-2019	10-12-2019																																			
153	Steel Works - 2000 kg	8.5 days	22-11-2019	01-12-2019																																			
154	Transportation of welding equipments, lightening etc. on the location	12 hrs	22-11-2019	23-11-2019																																			
155	Cropping of corroded parts as per marking	48 hrs	23-11-2019	25-11-2019																																			
156	Fitting of new parts as per class rules	48 hrs	24-11-2019	26-11-2019																																			
157	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	26-11-2019	30-11-2019																																			
158	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	30-11-2019	01-12-2019																																			
159	Coating Works	8.17 days	01-12-2019	09-12-2019																																			
160	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	01-12-2019	02-12-2019																																			
161	Waterjetting of the tanks 750 bars - 1000 bars for min. WJ4 surface quality	72 hrs	02-12-2019	05-12-2019																																			
162	Washing of the slime in way of the rusty areas for painting, cleaning of stringers etc.	60 hrs	02-12-2019	04-12-2019																																			
163	Application of first coat of RS 500P - Chemco Epoxy	24 hrs	06-12-2019	07-12-2019																																			
164	Stripe coat and close up application with RS 500P - Chemco Epoxy	16 hrs	07-12-2019	08-12-2019																																			
165	Second coat - RA 500M - Chemco Epoxy	16 hrs	08-12-2019	09-12-2019																																			
166	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	09-12-2019	09-12-2019																																			
167	No:5 WBT PS (1700 m² Rusty Area + 2000 kg. Steel Renewal)	22.08 days	19-11-2019	11-12-2019																																			
168	Entrance to the tank for safety protections	12 hrs	19-11-2019	20-11-2019																																			
169	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	21-11-2019	23-11-2019																																			
170	Removal of staging	24 hrs	10-12-2019	11-12-2019																																			
171	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	11-12-2019	11-12-2019																																			
172	Steel Works - 2000 kg	8.5 days	22-11-2019	01-12-2019																																			
173	Transportation of welding equipments, lightening etc. on the location	12 hrs	22-11-2019	23-11-2019																																			
174	Cropping of corroded parts as per marking	48 hrs	23-11-2019	25-11-2019																																			

www.marineindustry.net	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Progress	
	Milestone		External Milestone		Manual Task		Start-only			
	Summary		Inactive Task		Duration-only		Finish-only			

MT - TANKER CAP SURVEY WITH CHEMCO SYSTEMS

ID	Task Name	Duration	Start	Finish	17 Nov '19					24 Nov '19					01 Dec '19					08 Dec '19					15 Dec '19			
					S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M
209	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	12-12-2019	13-12-2019																							Cleaner[2]	
210	Steel Works - 2000 kg	6.5 days	24-11-2019	01-12-2019																								
211	Transportation of welding equipments, lightening etc. on the location	12 hrs	24-11-2019	25-11-2019																								
212	Cropping of corroded parts as per marking	48 hrs	25-11-2019	27-11-2019																								
213	Fitting of new parts as per class rules	48 hrs	26-11-2019	28-11-2019																								
214	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	26-11-2019	30-11-2019																								
215	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	30-11-2019	01-12-2019																								
216	Coating Works	7 days	04-12-2019	11-12-2019																								
217	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	04-12-2019	05-12-2019																								
218	Waterjetting of the tanks 750 bars - 1000 bars for min. WJ4 surface quality	72 hrs	05-12-2019	08-12-2019																								
219	Washing of the slime in way of the rusty areas for painting, cleaning of stringers etc.	60 hrs	05-12-2019	08-12-2019																								
220	Application of first coat of RS 500P - Chemco Epoxy	24 hrs	09-12-2019	10-12-2019																								
221	Stripe coat and close up application with RS 500P - Chemco Epoxy	16 hrs	10-12-2019	10-12-2019																								
222	Second coat - RA 500M - Chemco Epoxy	16 hrs	10-12-2019	11-12-2019																								
223	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	11-12-2019	11-12-2019																								
224	AFTPEAK (1700 m² Rusty Area + 2000 kg. Steel Renewal)	24.42 days	19-11-2019	14-12-2019																								
225	Entrance to the tank for safety protections	12 hrs	19-11-2019	20-11-2019																								
226	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	23-11-2019	25-11-2019																								
227	Removal of staging	24 hrs	13-12-2019	14-12-2019																								
228	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	14-12-2019	14-12-2019																								
229	Steel Works - 2000 kg	7 days	24-11-2019	01-12-2019																								
230	Transportation of welding equipments, lightening etc. on the location	12 hrs	24-11-2019	25-11-2019																								
231	Cropping of corroded parts as per marking	48 hrs	25-11-2019	27-11-2019																								
232	Fitting of new parts as per class rules	48 hrs	26-11-2019	28-11-2019																								
233	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	27-11-2019	01-12-2019																								
234	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	01-12-2019	01-12-2019																								
235	Coating Works	8.08 days	04-12-2019	13-12-2019																								
236	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	04-12-2019	05-12-2019																								
237	Waterjetting of the tanks 750 bars - 1000 bars for min. WJ4 surface quality	72 hrs	05-12-2019	08-12-2019																								
238	Washing of the slime in way of the rusty areas for painting, cleaning of stringers etc.	60 hrs	07-12-2019	09-12-2019																								
239	Application of first coat of RS 500P - Chemco Epoxy	24 hrs	10-12-2019	11-12-2019																								
240	Stripe coat and close up application with RS 500P - Chemco Epoxy	16 hrs	11-12-2019	11-12-2019																								
241	Second coat - RA 500M - Chemco Epoxy	16 hrs	11-12-2019	12-12-2019																								
242	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	12-12-2019	13-12-2019																								



www.marineindustry.net	Task	Project Summary	Inactive Milestone	Manual Summary Rollup	Deadline
	Split	External Tasks	Inactive Summary	Manual Summary	Progress
	Milestone	External Milestone	Manual Task	Start-only	
	Summary	Inactive Task	Duration-only	Finish-only	

MT Tanker Resource Usage for Waterjetting

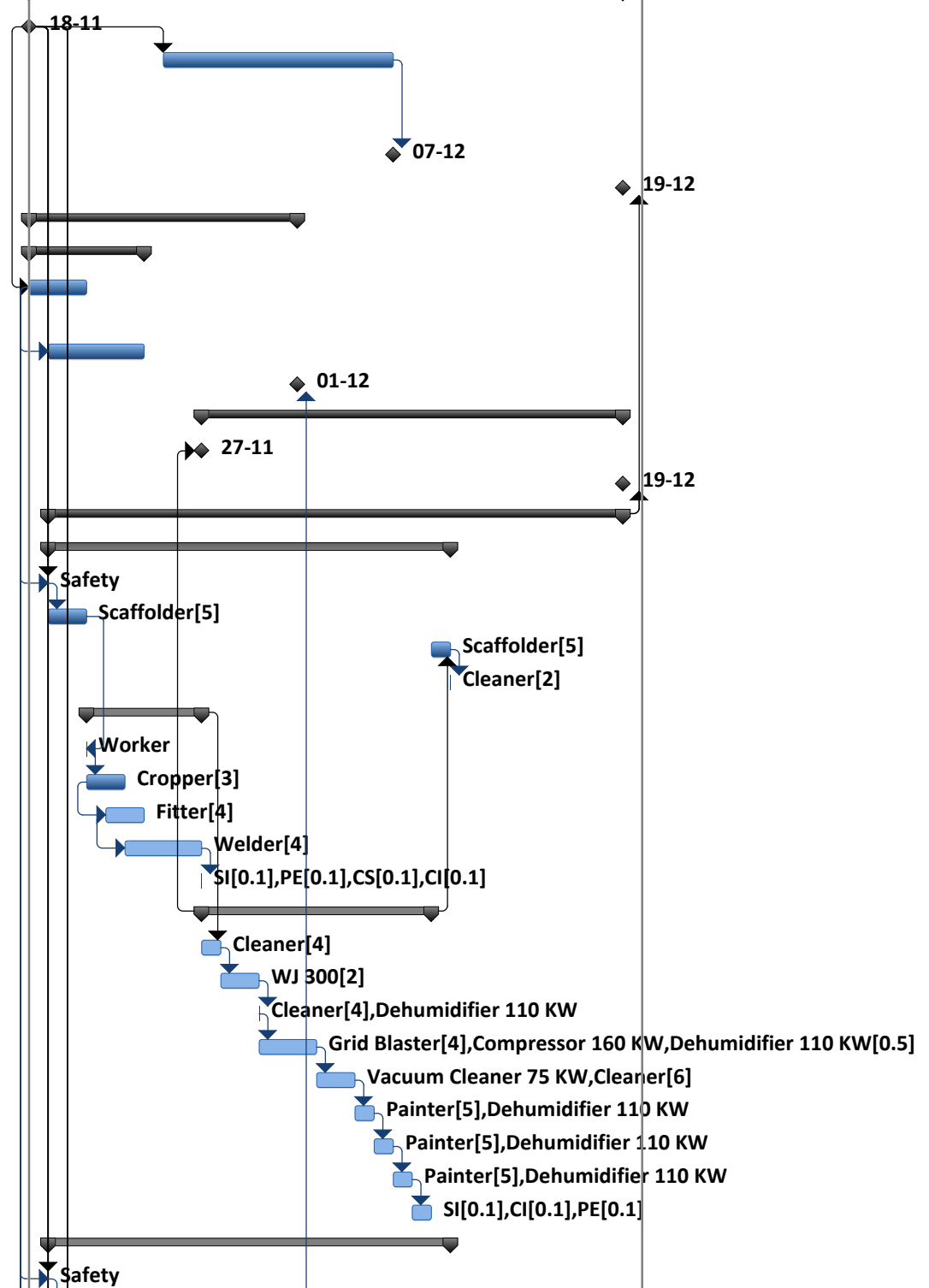
ID	Text1	Resource Name	Work	Start	Finish	Details	December 2019														January 2020					
							17	20	23	26	29	02	05	08	11	14	17	20	23	26	29	01				
						Work																				
1	Preparation	Worker	144 hrs	20-11-2019	25-11-2019	Work			76h	68h																
2	Steel Team	Cropper	1,728 hrs	21-11-2019	27-11-2019	Work			564h	972h	192h															
3	Steel Team	Fitter	2,304 hrs	22-11-2019	28-11-2019	Work			272h	1,440h	592h															
4	Steel Team	Welder	4,608 hrs	22-11-2019	01-12-2019	Work			64h	1,632h	1,984h	928h														
5	Superintendent	SI	28.8 hrs	26-11-2019	13-12-2019	Work					6.8h	7.6h	3.6h	4h	4.4h	2.4h										
6	Project Engineer	PE	28.8 hrs	26-11-2019	13-12-2019	Work					6.8h	7.6h	3.6h	4h	4.4h	2.4h										
7	Class Surveyor	CS	14.4 hrs	26-11-2019	01-12-2019	Work					6.8h	7.6h														
8	Coating Inspector	CI	28.8 hrs	26-11-2019	13-12-2019	Work					6.8h	7.6h	3.6h	4h	4.4h	2.4h										
9	Coating Team	Cleaner	4,176 hrs	27-11-2019	14-12-2019	Work					640h	1,104h	1,132h	1,004h	248h	36h	12h									
10	Waterjetting	WJ 1000	1,728 hrs	28-11-2019	08-12-2019	Work					128h	472h	536h	476h	116h											
11	Waterjetting	WJ 300	720 hrs	28-11-2019	09-12-2019	Work					64h	188h	228h	190h	50h											
12	Coating Team	Painter	3,360 hrs	30-11-2019	12-12-2019	Work						420h	800h	940h	980h	220h										
13	Coating Team	Scaffolder	4,290 hrs	19-11-2019	14-12-2019	Work	340h	1,800h	740h				330h	320h	360h	400h										
14	Coating Team	Safety	144 hrs	18-11-2019	20-11-2019	Work	112h	32h																		
15	Coating Team	Washer	2,448 hrs	28-11-2019	09-12-2019	Work					192h	660h	764h	666h	166h											

MT - Ballast Tank Coating Application - Resource Quantities For Waterjetting

ID	Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Ovt. Rate	Cost/Use	Accrue At	Base Calendar
1	Worker	Work		W	Coating	5	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
2	Cropper	Work		C	Steel	20	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
3	Fitter	Work		F	Steel	20	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
4	Welder	Work		W	Steel	30	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
5	SI	Work		S	Owner	1	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
6	PE	Work		P	Yard	1	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
7	CS	Work		C	Class	1	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
8	CI	Work		C	Inspector	1	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
9	Cleaner	Work		C	Coating	16	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
10	WJ 1000	Work		W	Coating	8	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
11	WJ 300	Work		W	Coating	4	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
12	Painter	Work		P	Coating	15	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
13	Scaffolder	Work		S	Yard	25	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
14	Safety	Work		S	Yard	4	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours
15	Washer	Work		W	Coating	12	\$0.00/hr	\$0.00/hr	\$0.00	Prorated	24 Hours

MT - TANKER CAP SURVEY WITH STANDARD EPOXIES

ID	Task Name	Duration	Start	Finish	December 2019																	Janua	
					11	14	17	20	23	26	29	02	05	08	11	14	17	20	23	26	29	01	
0	MT - TANKER BALLAST TANK UPGRADING PROJECT FOR CAP SURVEY - STANDARD EPOXIES - GRID BLASTING	30.75 days	18-11-2019	19-12-2019																			
1	Summary	30.75 days	18-11-2019	19-12-2019																			
2	Arrival of the vessel	0 days	18-11-2019	18-11-2019																			
3	Docking of the vessel (Due to high humidity, yard will prefer to do coating process inside the dock), (To speed up the grid cleaning and ventilation yard will prefer to open an access on shell DB area, welding of that steel parts need)	12 days	25-11-2019	07-12-2019																			
4	Undocking of the vessel	0 days	07-12-2019	07-12-2019																			
5	Departure of the vessel	0 days	19-12-2019	19-12-2019																			
6	Steel Works (Total ~24.000 kg)	13.5 days	18-11-2019	01-12-2019																			
7	Starting of the steel renewal	5.5 days	18-11-2019	23-11-2019																			
8	Inspection and marking of the tanks with class surveyor & UTM & Coating Inspector & Superintendent	3 days	18-11-2019	21-11-2019																			
9	Drawing preparations as per marking	5 days	18-11-2019	23-11-2019																			
10	Completion of steel renewal	0 days	01-12-2019	01-12-2019																			
11	Coating Works (~20.400 m²) - With Standard Epoxy System (2 Coat + 1 Stripe Coat)	21.75 days	27-11-2019	19-12-2019																			
12	Starting of coating works	0 days	27-11-2019	27-11-2019																			
13	Completion of coating works	0 days	19-12-2019	19-12-2019																			
14	Ballast Tank Upgrading Works (Steel & Coating Works) - 12 Tanks	30.25 days	18-11-2019	19-12-2019																			
15	No:1 WBT PS (1700 m² Rusty Area + 2000 kg. Steel Renewal)	21 days	18-11-2019	09-12-2019																			
16	Entrance to the tank for safety protections	12 hrs	18-11-2019	19-11-2019																			
17	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	19-11-2019	21-11-2019																			
18	Removal of staging	18 hrs	08-12-2019	09-12-2019																			
19	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	09-12-2019	09-12-2019																			
20	Steel Works - 2000 kg	6.5 days	20-11-2019	27-11-2019																			
21	Transportation of welding equipments, lightening etc. on the location	12 hrs	20-11-2019	21-11-2019																			
22	Cropping of corroded parts as per marking	48 hrs	21-11-2019	23-11-2019																			
23	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019																			
24	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	22-11-2019	26-11-2019																			
25	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	26-11-2019	27-11-2019																			
26	Coating Works	11.5 days	27-11-2019	08-12-2019																			
27	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	27-11-2019	28-11-2019																			
28	Washing of the tank for salt & slime	36 hrs	28-11-2019	29-11-2019																			
29	Drying of the tank before grid blasting	12 hrs	29-11-2019	30-11-2019																			
30	Grid blasting of the tank to SA2	72 hrs	30-11-2019	03-12-2019																			
31	Vacuum cleaning of the tank	36 hrs	03-12-2019	04-12-2019																			
32	Application of first coat of - Standard Epoxy	24 hrs	04-12-2019	05-12-2019																			
33	Stripe coat and close up application with- Standard Epoxy	24 hrs	05-12-2019	06-12-2019																			
34	Second coat - - Standard Epoxy	24 hrs	06-12-2019	07-12-2019																			
35	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	08-12-2019	08-12-2019																			
36	No:1 WBT STBD (1700 m² Rusty Area + 2000 kg. Steel Renewal)	21.25 days	18-11-2019	10-12-2019																			
37	Entrance to the tank for safety protections	12 hrs	18-11-2019	19-11-2019																			



www.marineindustry.net	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Progress	
	Milestone		External Milestone		Manual Task		Start-only			
	Summary		Inactive Task		Duration-only		Finish-only			

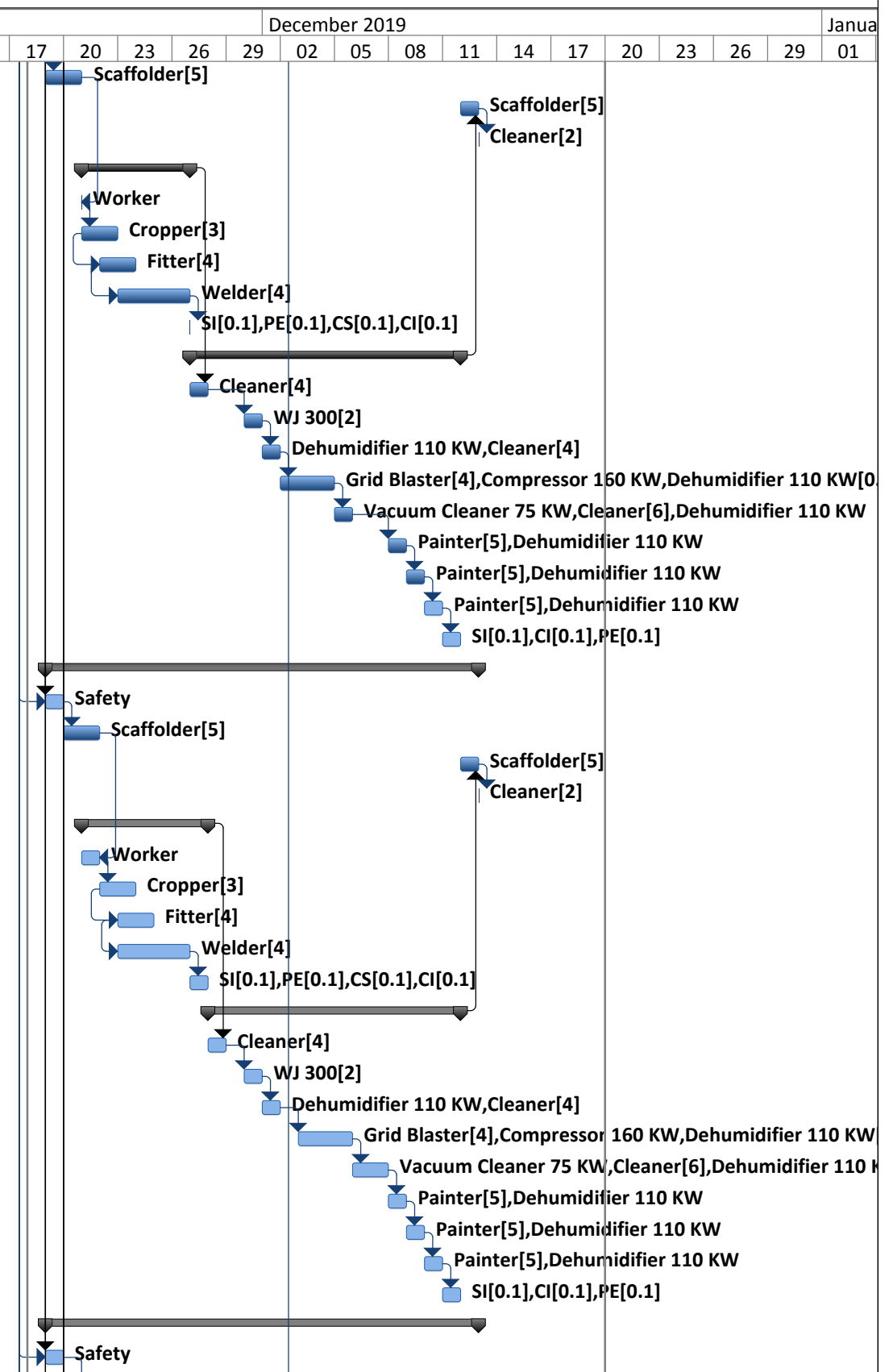
MT - TANKER CAP SURVEY WITH STANDARD EPOXIES

ID	Task Name	Duration	Start	Finish	December 2019																	Janua
					11	14	17	20	23	26	29	02	05	08	11	14	17	20	23	26	29	
38	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	19-11-2019	21-11-2019																		
39	Removal of staging	24 hrs	08-12-2019	09-12-2019																		
40	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	09-12-2019	10-12-2019																		
41	Steel Works - 2000 kg	6.5 days	20-11-2019	27-11-2019																		
42	Transportation of welding equipments, lightening etc. on the location	12 hrs	20-11-2019	21-11-2019																		
43	Cropping of corroded parts as per marking	48 hrs	21-11-2019	23-11-2019																		
44	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019																		
45	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	22-11-2019	26-11-2019																		
46	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	26-11-2019	27-11-2019																		
47	Coating Works	11.5 days	27-11-2019	08-12-2019																		
48	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	27-11-2019	28-11-2019																		
49	Washing of the tank for salt & slime	36 hrs	28-11-2019	29-11-2019																		
50	Drying of the tank before grid blasting	12 hrs	29-11-2019	30-11-2019																		
51	Grid blasting of the tank to SA2	72 hrs	30-11-2019	03-12-2019																		
52	Vacuum cleaning of the tank	36 hrs	03-12-2019	04-12-2019																		
53	Application of first coat of - Standard Epoxy	24 hrs	04-12-2019	05-12-2019																		
54	Stripe coat and close up application with- Standard Epoxy	24 hrs	05-12-2019	06-12-2019																		
55	Second coat - - Standard Epoxy	24 hrs	06-12-2019	07-12-2019																		
56	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	08-12-2019	08-12-2019																		
57	No:2 WBT PS (1700 m² Rusty Area + 2000 kg. Steel Renewal)	21.25 days	18-11-2019	10-12-2019																		
58	Entrance to the tank for safety protections	12 hrs	18-11-2019	19-11-2019																		
59	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	19-11-2019	21-11-2019																		
60	Removal of staging	24 hrs	08-12-2019	09-12-2019																		
61	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	09-12-2019	10-12-2019																		
62	Steel Works - 2000 kg	6.5 days	20-11-2019	27-11-2019																		
63	Transportation of welding equipments, lightening etc. on the location	12 hrs	20-11-2019	21-11-2019																		
64	Cropping of corroded parts as per marking	48 hrs	21-11-2019	23-11-2019																		
65	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019																		
66	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	22-11-2019	26-11-2019																		
67	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	26-11-2019	27-11-2019																		
68	Coating Works	11.5 days	27-11-2019	08-12-2019																		
69	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	27-11-2019	28-11-2019																		
70	Washing of the tank for salt & slime	36 hrs	28-11-2019	29-11-2019																		
71	Drying of the tank before grid blasting	12 hrs	29-11-2019	30-11-2019																		
72	Grid blasting of the tank to SA2	72 hrs	30-11-2019	03-12-2019																		
73	Vacuum cleaning of the tank	36 hrs	03-12-2019	04-12-2019																		
74	Application of first coat of - Standard Epoxy	24 hrs	04-12-2019	05-12-2019																		
75	Stripe coat and close up application with- Standard Epoxy	24 hrs	05-12-2019	06-12-2019																		
76	Second coat - - Standard Epoxy	24 hrs	06-12-2019	07-12-2019																		
77	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	08-12-2019	08-12-2019																		
78	No:2 WBT STBD (1700 m² Rusty Area + 2000 kg. Steel Renewal)	24.25 days	18-11-2019	13-12-2019																		
79	Entrance to the tank for safety protections	12 hrs	18-11-2019	19-11-2019																		

www.marineindustry.net	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Progress	
	Milestone		External Milestone		Manual Task		Start-only			
	Summary		Inactive Task		Duration-only		Finish-only			

MT - TANKER CAP SURVEY WITH STANDARD EPOXIES

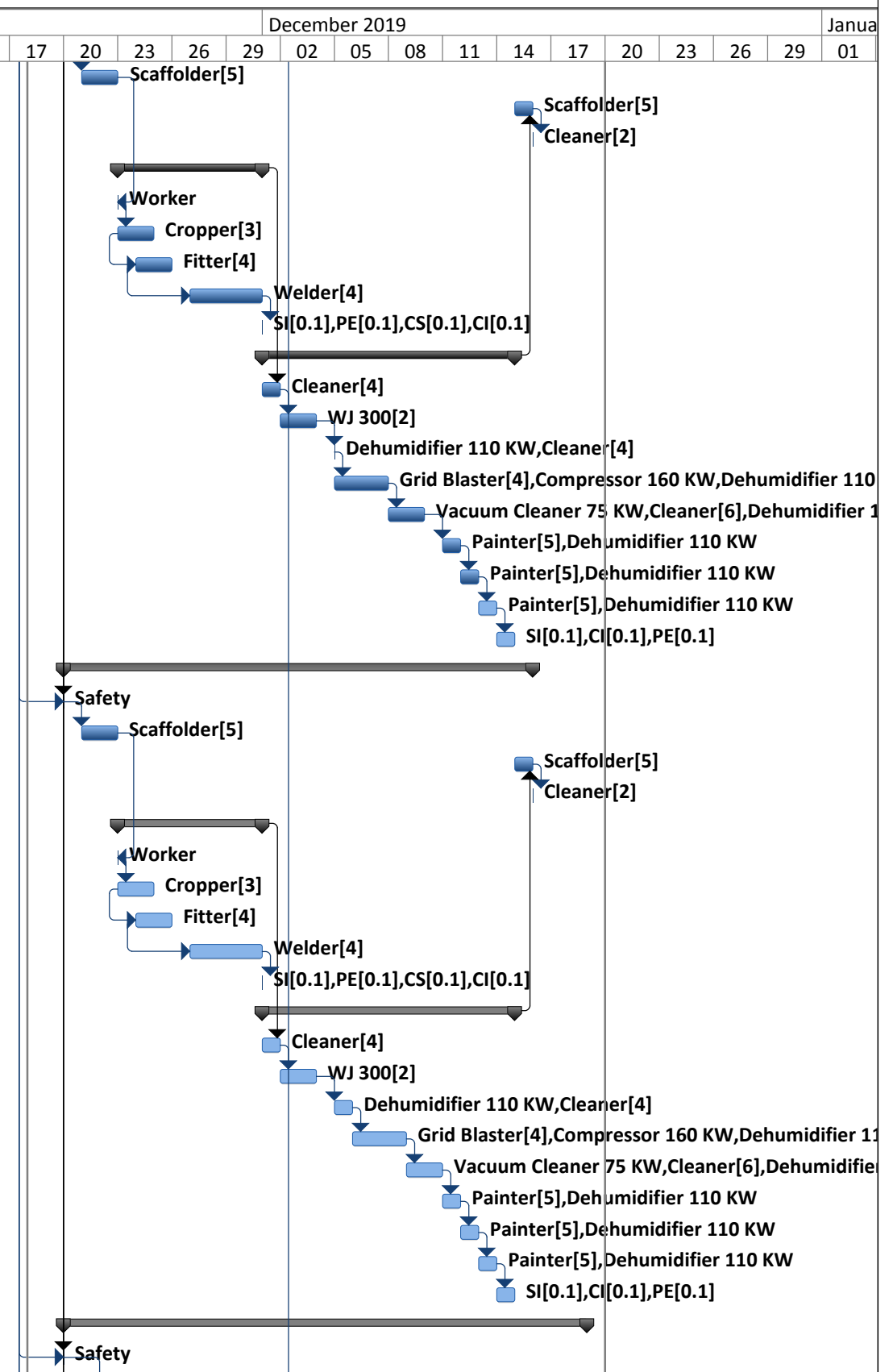
ID	Task Name	Duration	Start	Finish	December 2019																	Janua
					11	14	17	20	23	26	29	02	05	08	11	14	17	20	23	26	29	01
80	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	19-11-2019	21-11-2019																		
81	Removal of staging	24 hrs	11-12-2019	12-12-2019																		
82	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	12-12-2019	13-12-2019																		
83	Steel Works - 2000 kg	6.5 days	20-11-2019	27-11-2019																		
84	Transportation of welding equipments, lightening etc. on the location	12 hrs	20-11-2019	21-11-2019																		
85	Cropping of corroded parts as per marking	48 hrs	21-11-2019	23-11-2019																		
86	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019																		
87	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	22-11-2019	26-11-2019																		
88	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	26-11-2019	27-11-2019																		
89	Coating Works	14.5 days	27-11-2019	11-12-2019																		
90	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	27-11-2019	28-11-2019																		
91	Washing of the tank for salt & slime	36 hrs	29-11-2019	01-12-2019																		
92	Drying of the tank before grid blasting	12 hrs	01-12-2019	01-12-2019																		
93	Grid blasting of the tank to SA2	72 hrs	01-12-2019	04-12-2019																		
94	Vacuum cleaning of the tank	36 hrs	04-12-2019	06-12-2019																		
95	Application of first coat of - Standard Epoxy	24 hrs	07-12-2019	08-12-2019																		
96	Stripe coat and close up application with- Standard Epoxy	24 hrs	08-12-2019	09-12-2019																		
97	Second coat - - Standard Epoxy	24 hrs	09-12-2019	10-12-2019																		
98	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	11-12-2019	11-12-2019																		
99	No:3 WBT PS (1700 m² Rusty Area + 2000 kg. Steel Renewal)	23.75 days	19-11-2019	13-12-2019																		
100	Entrance to the tank for safety protections	12 hrs	19-11-2019	19-11-2019																		
101	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	19-11-2019	21-11-2019																		
102	Removal of staging	24 hrs	11-12-2019	12-12-2019																		
103	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	12-12-2019	13-12-2019																		
104	Steel Works - 2000 kg	6.5 days	21-11-2019	27-11-2019																		
105	Transportation of welding equipments, lightening etc. on the location	12 hrs	21-11-2019	21-11-2019																		
106	Cropping of corroded parts as per marking	48 hrs	21-11-2019	23-11-2019																		
107	Fitting of new parts as per class rules	48 hrs	22-11-2019	24-11-2019																		
108	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	23-11-2019	27-11-2019																		
109	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	27-11-2019	27-11-2019																		
110	Coating Works	14 days	27-11-2019	11-12-2019																		
111	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	27-11-2019	28-11-2019																		
112	Washing of the tank for salt & slime	36 hrs	29-11-2019	01-12-2019																		
113	Drying of the tank before grid blasting	12 hrs	01-12-2019	01-12-2019																		
114	Grid blasting of the tank to SA2	72 hrs	03-12-2019	06-12-2019																		
115	Vacuum cleaning of the tank	36 hrs	06-12-2019	07-12-2019																		
116	Application of first coat of - Standard Epoxy	24 hrs	07-12-2019	08-12-2019																		
117	Stripe coat and close up application with- Standard Epoxy	24 hrs	08-12-2019	09-12-2019																		
118	Second coat - - Standard Epoxy	24 hrs	09-12-2019	10-12-2019																		
119	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	11-12-2019	11-12-2019																		
120	No:3 WBT STBD (1700 m² Rusty Area + 2000 kg. Steel Renewal)	23.75 days	19-11-2019	13-12-2019																		
121	Entrance to the tank for safety protections	12 hrs	19-11-2019	19-11-2019																		



www.marineindustry.net	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Progress	
	Milestone		External Milestone		Manual Task		Start-only			
	Summary		Inactive Task		Duration-only		Finish-only			

MT - TANKER CAP SURVEY WITH STANDARD EPOXIES

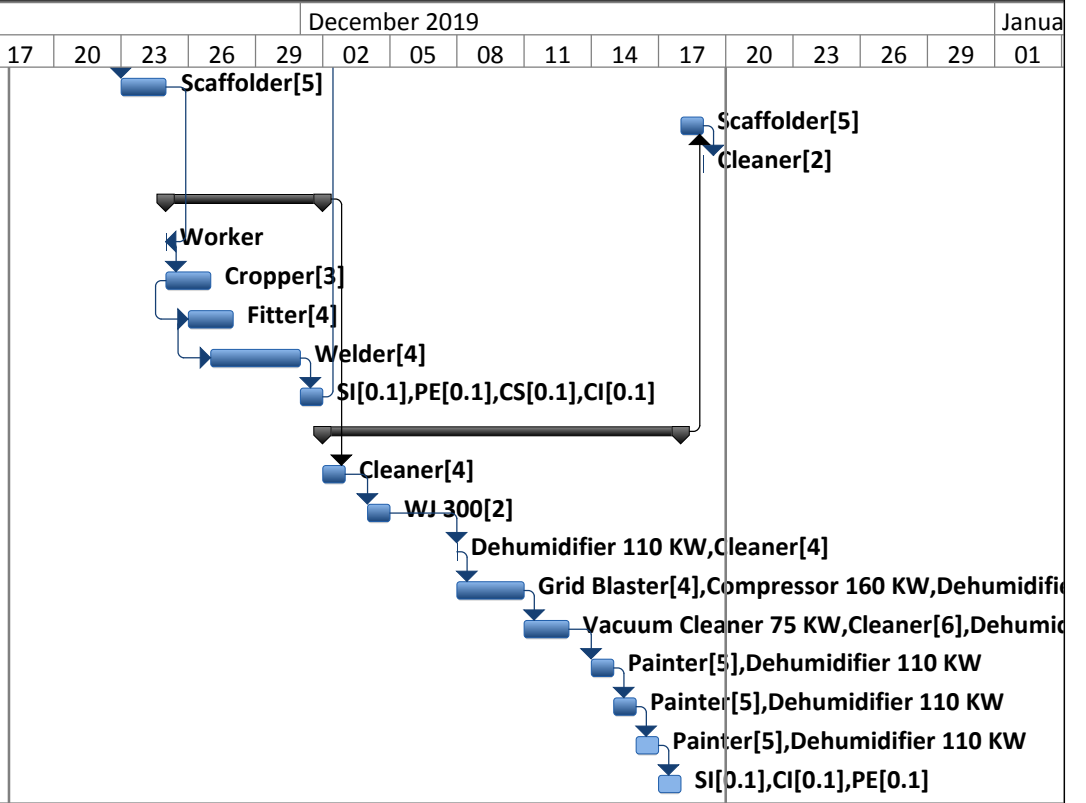
ID	Task Name	Duration	Start	Finish	December 2019																	Janua	
					11	14	17	20	23	26	29	02	05	08	11	14	17	20	23	26	29	01	
164	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	21-11-2019	23-11-2019																			
165	Removal of staging	24 hrs	14-12-2019	15-12-2019																			
166	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	15-12-2019	16-12-2019																			
167	Steel Works - 2000 kg	8.5 days	22-11-2019	01-12-2019																			
168	Transportation of welding equipments, lightening etc. on the location	12 hrs	22-11-2019	23-11-2019																			
169	Cropping of corroded parts as per marking	48 hrs	23-11-2019	25-11-2019																			
170	Fitting of new parts as per class rules	48 hrs	24-11-2019	26-11-2019																			
171	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	26-11-2019	30-11-2019																			
172	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	30-11-2019	01-12-2019																			
173	Coating Works	13.5 days	01-12-2019	14-12-2019																			
174	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	01-12-2019	02-12-2019																			
175	Washing of the tank for salt & slime	36 hrs	02-12-2019	03-12-2019																			
176	Drying of the tank before grid blasting	12 hrs	04-12-2019	05-12-2019																			
177	Grid blasting of the tank to SA2	72 hrs	05-12-2019	08-12-2019																			
178	Vacuum cleaning of the tank	36 hrs	08-12-2019	09-12-2019																			
179	Application of first coat of - Standard Epoxy	24 hrs	10-12-2019	11-12-2019																			
180	Stripe coat and close up application with- Standard Epoxy	24 hrs	11-12-2019	12-12-2019																			
181	Second coat - - Standard Epoxy	24 hrs	12-12-2019	13-12-2019																			
182	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	14-12-2019	14-12-2019																			
183	No:5 WBT PS (1700 m² Rusty Area + 2000 kg. Steel Renewal)	26.25 days	19-11-2019	16-12-2019																			
184	Entrance to the tank for safety protections	12 hrs	19-11-2019	20-11-2019																			
185	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	21-11-2019	23-11-2019																			
186	Removal of staging	24 hrs	14-12-2019	15-12-2019																			
187	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	15-12-2019	16-12-2019																			
188	Steel Works - 2000 kg	8.5 days	22-11-2019	01-12-2019																			
189	Transportation of welding equipments, lightening etc. on the location	12 hrs	22-11-2019	23-11-2019																			
190	Cropping of corroded parts as per marking	48 hrs	23-11-2019	25-11-2019																			
191	Fitting of new parts as per class rules	48 hrs	24-11-2019	26-11-2019																			
192	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	26-11-2019	30-11-2019																			
193	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	30-11-2019	01-12-2019																			
194	Coating Works	13.5 days	01-12-2019	14-12-2019																			
195	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	01-12-2019	02-12-2019																			
196	Washing of the tank for salt & slime	36 hrs	02-12-2019	03-12-2019																			
197	Drying of the tank before grid blasting	12 hrs	05-12-2019	05-12-2019																			
198	Grid blasting of the tank to SA2	72 hrs	06-12-2019	09-12-2019																			
199	Vacuum cleaning of the tank	36 hrs	09-12-2019	10-12-2019																			
200	Application of first coat of - Standard Epoxy	24 hrs	10-12-2019	11-12-2019																			
201	Stripe coat and close up application with- Standard Epoxy	24 hrs	11-12-2019	12-12-2019																			
202	Second coat - - Standard Epoxy	24 hrs	12-12-2019	13-12-2019																			
203	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	14-12-2019	14-12-2019																			
204	No:5 WBT STBD (1700 m² Rusty Area + 2000 kg. Steel Renewal)	29.25 days	19-11-2019	19-12-2019																			
205	Entrance to the tank for safety protections	12 hrs	19-11-2019	20-11-2019																			



www.marineindustry.net	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Progress	
	Milestone		External Milestone		Manual Task		Start-only			
	Summary		Inactive Task		Duration-only		Finish-only			

MT - TANKER CAP SURVEY WITH STANDARD EPOXIES

ID	Task Name	Duration	Start	Finish	December 2019																	Janua
					11	14	17	20	23	26	29	02	05	08	11	14	17	20	23	26	29	
248	Installations of staging in way of steel renewal areas or coating locations (350 m³/tank)	48 hrs	23-11-2019	25-11-2019																		
249	Removal of staging	24 hrs	17-12-2019	18-12-2019																		
250	Delivery of tank to ship crew after damage repairs, cleaning of the location etc.	6 hrs	18-12-2019	19-12-2019																		
251	Steel Works - 2000 kg	7 days	24-11-2019	01-12-2019																		
252	Transportation of welding equipments, lightening etc. on the location	12 hrs	24-11-2019	25-11-2019																		
253	Cropping of corroded parts as per marking	48 hrs	25-11-2019	27-11-2019																		
254	Fitting of new parts as per class rules	48 hrs	26-11-2019	28-11-2019																		
255	Welding of the fitted parts as per class rules, grinding of burned areas, weld splatters etc.	96 hrs	27-11-2019	01-12-2019																		
256	Delivery of the tank to Superintendent & Class Surveyor	12 hrs	01-12-2019	01-12-2019																		
257	Coating Works	15.5 days	02-12-2019	17-12-2019																		
258	Mud & Scrap cleaning of the tanks (5m³/tank) - included staging controls for coating works	24 hrs	02-12-2019	03-12-2019																		
259	Washing of the tank for salt & slime	36 hrs	03-12-2019	05-12-2019																		
260	Drying of the tank before grid blasting	12 hrs	07-12-2019	08-12-2019																		
261	Grid blasting of the tank to SA2	72 hrs	08-12-2019	11-12-2019																		
262	Vacuum cleaning of the tank	36 hrs	11-12-2019	12-12-2019																		
263	Application of first coat of - Standard Epoxy	24 hrs	13-12-2019	14-12-2019																		
264	Stripe coat and close up application with - Standard Epoxy	24 hrs	14-12-2019	15-12-2019																		
265	Second coat - - Standard Epoxy	24 hrs	15-12-2019	16-12-2019																		
266	Delivery of the tank to Coating inspector & Superintendent & Class Surveyor	12 hrs	17-12-2019	17-12-2019																		



www.marineindustry.net	Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
	Split		External Tasks		Inactive Summary		Manual Summary		Progress	
	Milestone		External Milestone		Manual Task		Start-only			
	Summary		Inactive Task		Duration-only		Finish-only			

MT Tanker Resource Usage for Grid Blasting

ID	Text1	Resource Name	Work	Start	Finish	Details	December 2019													January 01				
							17	20	23	26	29	02	05	08	11	14	17	20	23		26	29		
						Work																		
1	Preparation	Worker	144 hrs	20-11-2019	25-11-2019	Work			76h	68h														
2	Steel Team	Cropper	1,728 hrs	21-11-2019	27-11-2019	Work			564h	972h	192h													
3	Steel Team	Fitter	2,304 hrs	22-11-2019	28-11-2019	Work			272h	1,440h	592h													
4	Steel Team	Welder	4,608 hrs	22-11-2019	01-12-2019	Work			64h	1,632h	1,984h	928h												
5	Superintendent	SI	28.8 hrs	26-11-2019	17-12-2019	Work					6.8h	7.6h			3.6h	3.6h	3.6h	3.6h						
6	Project Engineer	PE	28.8 hrs	26-11-2019	17-12-2019	Work					6.8h	7.6h			3.6h	3.6h	3.6h	3.6h						
7	Class Surveyor	CS	14.4 hrs	26-11-2019	01-12-2019	Work					6.8h	7.6h												
8	Coating Inspector	CI	28.8 hrs	26-11-2019	17-12-2019	Work					6.8h	7.6h			3.6h	3.6h	3.6h	3.6h						
9	Coating Team	Cleaner	4,464 hrs	27-11-2019	19-12-2019	Work					480h	656h	1,040h	968h	564h	684h	36h	36h						
10	Waterjetting	WJ 300	864 hrs	28-11-2019	05-12-2019	Work					96h	368h	368h	32h										
11	Coating Team	Painter	4,320 hrs	04-12-2019	16-12-2019	Work							60h	1,080h	1,080h	1,080h	1,020h							
12	Coating Team	Scaffolder	4,290 hrs	19-11-2019	18-12-2019	Work	340h	1,800h	740h						330h	360h	360h	360h						
13	Coating Team	Safety	144 hrs	18-11-2019	20-11-2019	Work	112h	32h																
14	Coating Team	Dehumidifier 110 KW	1,836 hrs	29-11-2019	16-12-2019	Work						126h	254h	488h	428h	336h	204h							
15	Coating Team	Grid Blaster	3,456 hrs	30-11-2019	11-12-2019	Work						496h	1,136h	800h	928h	96h								
16	Coating Team	Compressor 160 KW	864 hrs	30-11-2019	11-12-2019	Work						124h	284h	200h	232h	24h								
17	Coating Team	Vacuum Cleaner 75 KW	432 hrs	03-12-2019	12-12-2019	Work							112h	140h	72h	108h								

MT - BALLAST TANK COATING APPLICATION WITH GRID BLASTING

ID	Resource Name	Type	Material Label	Initials	Group	Max. Units	Std. Rate	Ovt. Rate	Cost/Use	Base Calendar
1	Worker	Work		W	Coating	5	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
2	Cropper	Work		C	Steel	20	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
3	Fitter	Work		F	Steel	20	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
4	Welder	Work		W	Steel	30	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
5	SI	Work		S	Owner	1	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
6	PE	Work		P	Yard	1	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
7	CS	Work		C	Class	1	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
8	CI	Work		C	Inspector	1	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
9	Cleaner	Work		C	Coating	20	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
10	WJ 300	Work		W	Coating	6	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
11	Painter	Work		P	Coating	15	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
12	Scaffolder	Work		S	Coating	25	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
13	Safety	Work		S	Yard	4	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
14	Dehumidifier 110 KW	Work		D	Coating	7	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
15	Grid Blaster	Work		G	Coating	16	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
16	Compressor 160 KW	Work		C	Coating	4	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours
17	Vacuum Cleaner 75 KW	Work		V	Coating	3	\$0.00/hr	\$0.00/hr	\$0.00	24 Hours