

NCSX PF Fabrication Material Cost Estimate

Trim Coil Material Estimate

		Trim1	Trim2	Trim3	Trim4
II. Materials M&S					
Number of Coils		6	12	6	12
Copper Cost Per Meter		\$28	\$28	\$28	\$28
copper cost per coil	\$	\$526	\$345	\$627	\$382
misc matl -\$ per lb of Cu in coils	2.0	\$/kg	\$/kg	\$/kg	\$/kg
glass insul width	mm	25.4	25.4	25.4	25.4
turn insul.: length/meter of cond./layer	m/m	2.05	2.05	2.05	2.05
turn ins. Tape Thickness	mm	0.19	0.19	0.19	0.19
No. half lapped layers	#	2	2	2	2
meters of ins. /roll	m	182.00	182.00	182.00	182.00
no. rolls/coil	#	0.8	0.6	1.0	0.6
insulation waste factor	multiplier	1.3	1.3	1.3	1.3
total rolls of turn ins. reqd.per coil	#	1.1	1.4	2.6	1.6
turn insulation cost per roll	\$/roll	728	728	728	728
insul width	mm	25.4	25.4	25.4	25.4
turn insul. length/meter of cond./layer	m/m	2.05	2.05	2.05	2.05
turn ins. Tape Thickness	mm	0.19	0.19	0.19	0.19
No. half lapped layers	#	2	2	2	2
meters of ins. /roll	m	182.00	182.00	182.00	182.00
no. rolls/coil	#	0.8	0.6	1.0	0.6
insulation waste factor	multiplier	1.3	1.3	1.3	1.3
total rolls of turn ins. reqd N Coils	#	6.5	8.6	7.9	9.6
turn insulation cost per roll	\$/roll	728	728	728	728
turn insulation cost per coil	\$	\$787	\$524	\$954	\$581
Length of Kapton	m	38	25	46	28
Cost per Meter of Kapton	\$/m	1.26	1.26	1.26	1.26
Kapton Cost per Coil	\$	\$48	\$32	\$58	\$35
ground wall tape thickness	mm	0.38	0.38	0.38	0.38
No. half lapped layers	#	4.00	4.00	4.00	4.00
total ground wall thick.	mm	3.04	3.04	3.04	3.04
ground wall tape width	cm	6	6	6	6
gw tape length reqd.	m	35	24	43	26
meters of ins. /roll	m	10	10	10	10
no. rolls/coil	#	4	2	4	3
insulation waste factor	multiplier	1.30	1.30	1.30	1.30
no. rolls of GW insulation, for all coils	#	28	37	34	41
GW tape cost per roll	\$	50	50	50	50
GW insulation cost per coil	\$	\$231	\$154	\$280	\$170
Epoxy volume reqd. (15% void fraction)	l	0.57	0.38	0.70	0.42
Epoxy cost/liter	\$/l	150	150	150	150
Epoxy cost per coil	\$	\$86	\$57	\$105	\$64
		0	0	0	0
		\$0	\$0	\$0	\$0
Material Costs Insulation per Coil		\$1,151	\$735	\$1,338	\$815
Material Cost Including Copper Conductor per Coil		\$1,676	\$1,080	\$1,965	\$1,197
Material Costs Insulation Total		\$6,904	\$8,823	\$8,027	\$9,776
Material Cost Including Copper Conductor Total		\$10,057	\$12,959	\$11,791	\$14,359

Everson Budgetary Estimate

Total Material Cost All Trim Coils		
Manufacturing Cost per Coil Everson Estimate		
Total Cost for Fixtures		
Recurring Costs for N Coils		
Total Cost For N Coils		
Total Cost All Coils		

Everson Budgetary Estimate (adjusted for uncertainty)

Total Material Cost All Trim Coils		
Manufacturing Cost from Everson Budgetary Estimate		
Total Cost for Fixtures		
Recurring Costs for N Coils		
Total Cost For N Coils		
Total Cost All Coils		\$668,583