

# 23 07 HVAC Insulation

## 23 07 13 – Duct Insulation

### 23 07 13.10 Duct Thermal Insulation

		Crew	Daily Output	Labor-Hours	Unit	Material	2022 Bare Costs		Total	Total Incl O&P
							Labor	Equipment		
3110	1/2" x 24" x 25'	Q-14	98	.163	S.F.	3.81	9.25		13.06	18.40
3120	1/2" x 48" x 25'		1.04	15.385	Roll	375	875		1,250	1,750
3126	1/2" x 48" x 25'		104	.154	S.F.	3.77	8.75		12.52	17.50
3140	FSK vapor barrier wrap, .75 lb. density									
3160	1" thick	G	Q-14	350	.046	S.F.	.22	2.59	2.81	4.21
3170	1-1/2" thick	G		320	.050		.55	2.84	3.39	4.95
3180	2" thick	G		300	.053		.77	3.03	3.80	5.50
3190	3" thick	G		260	.062		1.33	3.49	4.82	6.80
3200	4" thick	G		242	.066		.70	3.75	4.45	6.50
3210	Vinyl jacket, same as FSK									
3280	Unfaced, 1 lb. density									
3310	1" thick	G	Q-14	360	.044	S.F.	.28	2.52	2.80	4.17
3320	1-1/2" thick	G		330	.048		.37	2.75	3.12	4.62
3330	2" thick	G		310	.052		.49	2.93	3.42	5
3400	FSK facing, 1 lb. density									
3420	1-1/2" thick	G	Q-14	310	.052	S.F.	.87	2.93	3.80	5.45
3430	2" thick	G	"	300	.053	"	.73	3.03	3.76	5.45
3450	FSK facing, 1.5 lb. density									
3470	1-1/2" thick	G	Q-14	300	.053	S.F.	1.20	3.03	4.23	5.95
3480	2" thick	G	"	290	.055	"	1.59	3.13	4.72	6.55
3795	Finishes									
3800	Stainless steel woven mesh		Q-14	100	.160	S.F.	1.14	9.10	10.24	15.15
3810	For .010" stainless steel, add			160	.100		3.29	5.70	8.99	12.30
3820	18 oz. fiberglass cloth, pasted on			170	.094		1.16	5.35	6.51	9.45
3900	8 oz. canvas, pasted on			180	.089		.34	5.05	5.39	8.05
3940	For .016" aluminum jacket, add			200	.080		1.12	4.54	5.66	8.20
7878	Contact cement, quart can				Ea.	14.75			14.75	16.20

## 23 07 16 – HVAC Equipment Insulation

### 23 07 16.10 HVAC Equipment Thermal Insulation

0010	HVAC EQUIPMENT THERMAL INSULATION									
0110	Insulation req'd. is based on the surface size/area to be covered									
1000	Boiler, 1-1/2" calcium silicate only	G	Q-14	110	.145	S.F.	5.25	8.25	13.50	18.45
1020	Plus 2" fiberglass	G	"	80	.200	"	7.10	11.35	18.45	25
2000	Breeching, 2" calcium silicate									
2020	Rectangular	G	Q-14	42	.381	S.F.	10.20	21.50	31.70	44
2040	Round	G	"	38.70	.413	"	10.60	23.50	34.10	47.50

# 23 09 Instrumentation and Control for HVAC

## 23 09 23 – Direct-Digital Control System for HVAC

### 23 09 23.10 Control Components/DDC Systems

0010	CONTROL COMPONENTS/DDC SYSTEMS (Sub's quote incl. M & L)									
0100	Analog inputs									
0110	Sensors (avg. 50' run in 1/2" EMT)									
0120	Duct temperature					Ea.			465	465
0130	Space temperature								665	665
0140	Duct humidity, +/- 3%								595	595
0150	Space humidity, +/- 2%								1,150	1,150
0160	Duct static pressure								680	680
0170	CFM/transducer								920	920
0172	Water temperature								940	940