## 05 05 Common Work Results for Metals

05 05 21 -	Fasteni	ng Methods	for Metal
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				Daily	Labor-			2022 Bare Costs			lotal
21.15 Drilling Steel			Crew	Output	Hours	Unit	Material	Labor	Equipment	Total	Incl O&P
3/4" diameter			1 Sswk	80	.100	Ea.	.16	6.20	3	6.36	9.70
For each additi	onal 1/4" depth, add			240	.033		.16	2.06		2.22	3.35
7/8" diameter				72	.111		.19	6.85		7.04	10.80
For each additi	onal 1/4" depth, add			216	.037		.19	2.29		2.48	3.73
1" diameter			1	64	.125		.28	7.75		8.03	12.20
For each additi	onal 1/4" depth, add		+	192	.042		.28	2.58		2.86	4.27
For drilling up, add							-	40%			
	3/4″ diameter For each additi 7/8″ diameter For each additi 1″ diameter For each additi	For each additional 1/4" depth, add 7/8" diameter For each additional 1/4" depth, add 1" diameter For each additional 1/4" depth, add	3/4" diameter For each additional 1/4" depth, add 7/8" diameter For each additional 1/4" depth, add 1" diameter For each additional 1/4" depth, add	3/4" diameter For each additional 1/4" depth, add 7/8" diameter For each additional 1/4" depth, add 1" diameter For each additional 1/4" depth, add	21.15 Drilling Steel       Crew Output         3/4" diameter       1 Sswk 80         For each additional 1/4" depth, add       240         7/8" diameter         72         For each additional 1/4" depth, add         216         1" diameter         64         For each additional 1/4" depth, add         192	21.15 Drilling Steel       Crew Output Hours         3/4" diameter       1 Sswk 80 100         For each additional 1/4" depth, add       240 .033         7/8" diameter         72 .111           For each additional 1/4" depth, add         216   .037           1" diameter         64   .125           For each additional 1/4" depth, add         192   .042	21.15 Drilling Stee!       Crew Output       Hours Unit         3/4" diameter       1 Sswk 80 100 Ea.         For each additional 1/4" depth, add       240 .033           7/8" diameter         72 .111           For each additional 1/4" depth, add         216   .037           1" diameter         64   .125           For each additional 1/4" depth, add         192   .042	21.15 Drilling Stee!         Crew Output Hours Unit Hours Unit Material         Material           3/4" diameter         1 Sswk 80 100 Ea. 16           For each additional 1/4" depth, add         240 .033   .16           7/8" diameter         1 72 .111   .19   .19             For each additional 1/4" depth, add         216 .037   .19             1" diameter         64 .125   .28             For each additional 1/4" depth, add         192 .042   .28	21.15 Drilling Steel         Crew Output Hours         Unit Hours         Material Labor           3/4" diameter         1 Sswk 80 100 Ea.         16 6.20           For each additional 1/4" depth, add         240 .033   .16 2.06           7/8" diameter           72   .111     .19   6.85           For each additional 1/4" depth, add           216   .037   .19   2.29           1" diameter           64   .125   .28   7.75           For each additional 1/4" depth, add           192   .042   .28   2.58	21.15 Drilling Steel         Crew Output Hours         Unit Hours         Material         Labor Equipment           3/4" diameter         1 Sswk 80 100 Ea.         .16 6.20           For each additional 1/4" depth, add         240 .033   .16 2.06           7/8" diameter         1 72 .111   .1   .19 6.85             For each additional 1/4" depth, add         216 .037   .19 2.29             1" diameter         64 .125   .28 7.75             For each additional 1/4" depth, add         192 .042   .28 2.58	21.15 Drilling Steel         Crew Output Hours Unit Hou

## 05 05 21.90 Welding Steel

0010	WELDING STEEL, Structural RO50	0521-20									
0020	Field welding, 1/8" E6011, cost per welder, no operating engineer		E-14	8	. 1	Hr.	6.4	0 64	18.40	88.80	126
0200	With 1/2 operating engineer		E-13	8	1.500	1	6.4	92.50	18.40	117.30	169
0300	With 1 operating engineer		E-12	8	2	1	6.4	121	18.40	145.80	211
0500	With no operating engineer, 2# weld rod per ton		E-14	8	1	Ton	6.4	0 64	18.40	88.80	126
0600	8# E6011 per ton		"	2	4		25.5	256	73.50	355	505
0800	With one operating engineer per welder, 2# E6011 per ton		E-12	8	2	1	6.4	121	18.40	145.80	211
0900	8# E6011 per ton		"	2	8	+	25.50	485	73.50	584	845
1200	Continuous fillet, down welding										
1300	Single pass, 1/8" thick, 0.1#/L.F.		E-14	150	.053	L.F.	; .3:	3.41	.98	4.71	6.70
1400	3/16" thick, 0.2#/L.F.			75	.107		.6.	4 6.80	1.96	9.40	13.35
1500	1/4" thick, 0.3#/L.F.			50	.160	No.	.90	5 10.25	2.95	14.16	20
1610	5/16" thick, 0.4#/L.F.			38	.211	1	1.28	3 : 13.45	3.88	18.61	26
1800	3 passes, 3/8" thick, 0.5#/L.F.			30	.267	1	1.60	17.05	4.91	23.56	33.50
2010	4 passes, 1/2" thick, 0.7#/L.F.			22	.364		2.24	23.50	6.70	32.44	46
2200	5 to 6 passes, 3/4" thick, 1.3#/L.F.			12	.667	1	4.1	42.50	12.30	58.96	83.50
2400	8 to 11 passes, 1" thick, 2.4#/L.F.			6	1.333		7.6	85.50	24.50	117.65	166
2600	For vertical joint welding, add							20%			
2700	Overhead joint welding, add							300%			
2900	For semi-automatic welding, obstructed joints, deduct							. 5%			
3000	Exposed joints, deduct					+	Demonst	15%			
4000	Cleaning and welding plates, bars, or rods										
4010	to existing beams, columns, or trusses		E-14	12	.667	L.F.	1.60	42.50	12.30	56.40	81

## 05 05 23 - Metal Fastenings

## 05 05 23.10 Bolts and Hex Nuts

05 0.	23. TO BOILS alla nex Muls										
0010	BOLTS & HEX NUTS, Steel, A307										
0100	1/4" diameter, 1/2" long	G	15	swk	140	.057	Ea.	.08	3.53	3.61 ·	5.55
0200	land in the state of the state	G	\$		140	.057		.09	3.53	3.62	5.55
0300	2" long	G			130	.062		.12	3.81	3.93	6
0400	3" long	G			130	.062		.18	3.81	3.99	6.05
0500	4" long	G			120	.067		.20	4.12	4.32	6.55
0600	3/8" diameter, 1" long	G			130	.062		.16	3.81	3.97	6.05
0700	2" long	G			130	.062		.21	3.81	4.02	6.10
0800	3" long	G			120	.067		.28	4.12	4.40	6.65
0900	4" long	G			120	.067		.36	4.12	4.48	6.75
1000	5" long	G			115	.070		.45	4.30	4.75	7.15
1100	1/2" diameter, 1-1/2" long	G			120	.067		.43	4.12	4.55	6.80
1200	2" long	G			120	.067		.49	4.12	4.61	6.90
1300	4" long	G			115	.070		.78	4.30	5.08	7.50
1400	6" long	G			110	.073		1.08	4.50	5.58	8.15
1500	8" long	G			105	.076		1.42	4.71	6.13	8.80
1600	5/8" diameter, 1-1/2" long	G	1		120	.067	V	1.01	4.12	5.13	7.45
1700	2" long	G	115	swk	120	.067	Ea.	1.11	4.12	5.23	7.60
1800	4" long	G			115	.070	1	1.61	4.30	5.91	8.40
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