



Sheet Metal Apprenticeship

Program Report For Greater South Bay and Peninsula Region (Santa Clara and San Mateo Counties)

November 2016

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Sheet Metal Technology/Sheetworking

CIP 2010: A program that prepares individuals to apply technical knowledge and skills to form, shape, bend and fold extruded metals, including the creation of new products, using hand tools and machines such as cornice brakes, forming rolls, and squaring shears.

Target Occupations‡

Sheet Metal Workers (47-2211)

Rolling Machine Setters, Operators, and Tenders, Metal and Plastic (51-4023)

Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic (51-4031)

Model Makers, Metal and Plastic (51-4061)

Patternmakers, Metal and Plastic (51-4062)

‡Based on EMSI crosswalk of the Classification of Instructional Programs (CIP) codes with Standard Occupational Classification (SOC) codes as published by the U.S. Department of Education.

In 2016, the number of Sheet Metal jobs in the target occupations in Santa Clara and San Mateo Counties totaled 2,225. The Bureau of Labor Statistics (BLS) expects the total number of positions to increase by almost 2% over the next three years.

Occupation Summary for Sheet Metal

2,225 Jobs (2016)¹ 42% below National average ²	1.8% % Change (2016-2019)³ Nation: -2.4%	\$27.76/hr Median Hourly Earnings Nation: \$18.88/hr
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¹Based on total number of jobs for target occupations in Santa Clara and San Mateo Counties.

²Represents occupation density as compared to national average (national average=1).

³Based on turnover and new jobs.

Target occupations that are mapped to the Sheet Metal program are disaggregated to see which occupations are projected to see the highest number of annual openings (Sheet Metal Workers), highest percentage rate of growth over the next three years (Sheet Metal Workers), and the highest median hourly earnings (Sheet Metal Workers). While Sheet Metal Workers are expected to experience job growth (5%), these occupations are less represented and concentrated in our region (Santa Clara and San Mateo Counties) compared to the national average.

Occupation	2016 Jobs	Annual Openings	Median Hourly Earnings	Growth (2016 - 2019)	Location Quotient (2016)
Sheet Metal Workers	1,175	49	\$37.26/hr	5.36%	0.78
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	883	11	\$17.77/hr	-2.49%	0.46
Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	93	3	\$19.08/hr	0.00%	0.30
Model Makers, Metal and Plastic	60	1	\$21.95/hr	-3.33%	0.91
Patternmakers, Metal and Plastic	14	0	\$19.35/hr	-7.14%	0.36

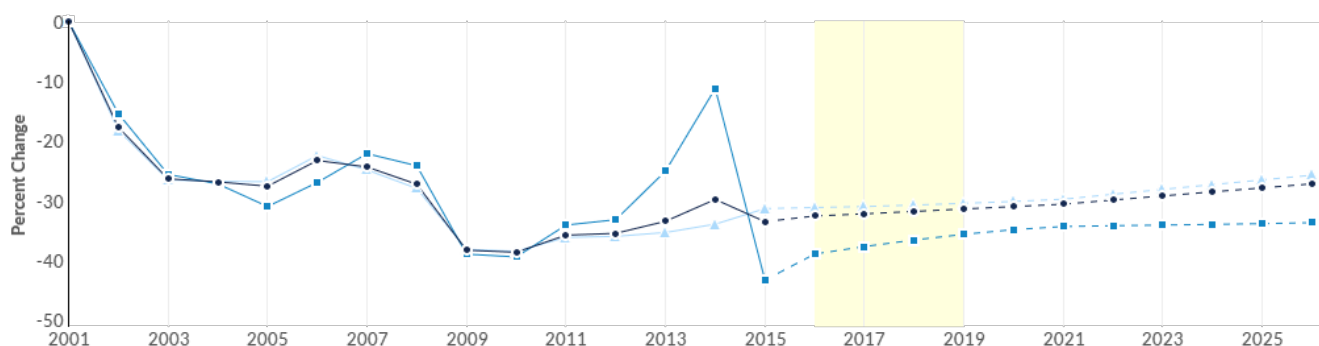
Growth in the Sheet Metal occupations show how each occupation is projected to increase in jobs over the next three years. Other than Sheet Metal Workers, the other occupations are expected to decline or remain steady in the number of jobs. Therefore, the growth of about 2% expected in the next three years for Sheet Metal Workers is accounted for by one occupation.

Growth for Sheet Metal

2,225	2,264	39	1.8%
2016 Jobs	2019 Jobs	Change (2016-2019)	% Change (2016-2019)

Occupation	2016 Jobs	2019 Jobs	Change	% Change
Sheet Metal Workers (47-2211)	1,175	1,238	63	5%
Rolling Machine Setters, Operators, and Tenders, Metal and Plastic (51-4023)	93	93	0	0%
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic (51-4031)	883	861	-22	-2%
Model Makers, Metal and Plastic (51-4061)	60	58	-2	-3%
Patternmakers, Metal and Plastic (51-4062)	14	13	-1	-7%

Regional Trends

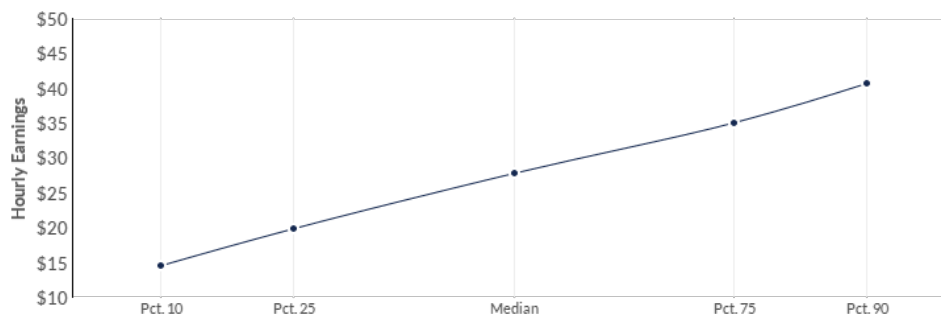


	Region	2016 Jobs	2019 Jobs	Change	% Change
●	Region	2,225	2,264	39	1.8%
●	San Mateo County, CA	367	387	20	5.4%
●	Santa Clara County, CA	1,858	1,877	19	1.0%

The percentile earnings table shows the range the Sheet Metal occupations earn in the region. While the median earnings are around \$27/hour, wages can range from below \$19/hour to above \$35/hour. Each of the target occupations' range in wages is also displayed.

Percentile Earnings for Sheet Metal

\$19.81/hr	\$27.76/hr	\$35.04/hr
25th Percentile Earnings	Median Earnings	75th Percentile Earnings



Occupation	25th Percentile Earnings	Median Earnings	75th Percentile Earnings
Sheet Metal Workers (47-2211)	\$25.13	\$37.26	\$47.62
Rolling Machine Setters, Operators, and Tenders, Metal and Plastic (51-4023)	\$15.51	\$19.08	\$23.50
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic (51-4031)	\$14.07	\$17.77	\$21.68
Model Makers, Metal and Plastic (51-4061)	\$17.81	\$21.95	\$28.06
Patternmakers, Metal and Plastic (51-4062)	\$14.99	\$19.35	\$29.79

Target Occupations Demographics

The demographics among those employed in Sheet Metal occupations in Santa Clara and San Mateo Counties for 2016 show that are a majority of male (88%) and more than a quarter are between the ages of 45-54 (28%) and more than half are White (53%).

Occupation Gender Breakdown

Gender	2016 Jobs	2016 Percent	
Males	1,967	88.4%	<div></div>
Females	259	11.6%	<div></div>

Occupation Age Breakdown

Age	2016 Jobs	2016 Percent	
14-18	8	0.4%	<div></div>
19-24	141	6.3%	<div></div>
25-34	438	19.7%	<div></div>
35-44	533	24.0%	<div></div>
45-54	630	28.3%	<div></div>
55-64	385	17.3%	<div></div>
65+	90	4.0%	<div></div>

Occupation Race/Ethnicity Breakdown

Race/Ethnicity	2016 Jobs	2016 Percent	
White	1,171	52.6%	<div></div>
Hispanic or Latino	655	29.4%	<div></div>
Asian	270	12.1%	<div></div>
Black or African American	84	3.8%	<div></div>
Two or More Races	30	1.4%	<div></div>
Native Hawaiian or Other Pacific Islander	9	0.4%	<div></div>
American Indian or Alaska Native	6	0.3%	<div></div>

Industries Employing Sheet Metal Occupations

A number of industries in Santa Clara and San Mateo Counties employ those trained in Sheet Metal and its related occupations. The following table represents a regional industry breakdown of the number of Sheet Metal positions employed, the percentage of Sheet Metal employed by industry and the Sheet Metal jobs represent within all jobs by each industry. While Plumbing, Heating, and Air-Conditioning Contractors employed 30% of all regional Sheet Metal positions in 2016, Sheet Metal occupations composed a minority of jobs in that industry (6%).

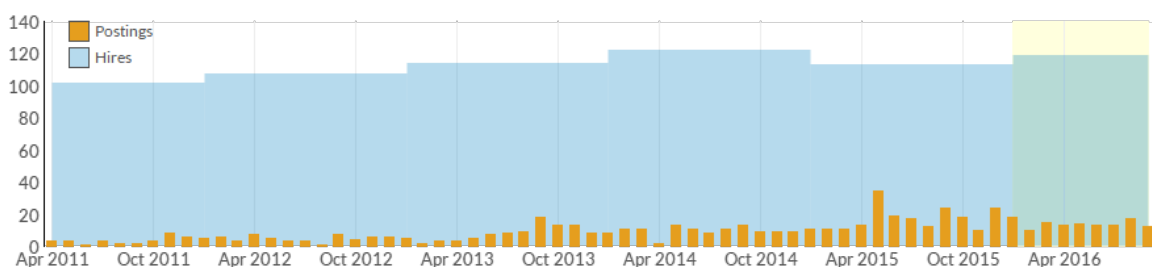
Industries Employing Sheet Metal Occupations

Industry	Occupation Group Jobs in Industry (2016)	% of Occupation Group in Industry (2016)	% of Total Jobs in Industry (2016)
Plumbing, Heating, and Air-Conditioning Contractors	660	29.7%	5.9%
Sheet Metal Work Manufacturing	168	7.6%	9.9%
Temporary Help Services	146	6.6%	0.5%
Semiconductor and Related Device Manufacturing	99	4.5%	0.4%
Metal Crown, Closure, and Other Metal Stamping (except Automotive)	89	4.0%	12.1%

In an average month, there were 14 unique (internet) job postings for Sheet Metal jobs, and 119 actually hired from January 2016 to September 2016. This means there was approximately 8 hires for every 1 unique (internet) job posting for occupations in Sheet Metal. In cases where there were hires but no job postings, it suggests that the internet may not be the primary way that job openings for these occupations are advertised.

Job Postings vs. Hires

14	119
Avg. Monthly Postings (Jan 2016 - Sep 2016)	Avg. Monthly Hires (Jan 2016 - Sep 2016)



Occupation	Avg Monthly Postings (Jan 2016 - Sep 2016)	Avg Monthly Hires (Jan 2016 - Sep 2016)
Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	5	40
Sheet Metal Workers	4	73
Model Makers, Metal and Plastic	3	2
Rolling Machine Setters, Operators, and Tenders, Metal and Plastic	2	3
Patternmakers, Metal and Plastic	0	1

The top five relevant hard and soft skills employers list in Sheet Metal job posting descriptions are listed below. The “Postings with Skill” column is the total amount of (internet) job postings that mention the skills listed below. These numbers may be higher than the average monthly postings from above, because this number includes duplicated (internet) job postings. The “Relevance Score” gauge relevance of the skill by indicating the frequency in which this skill is being mentioned in (internet) job postings for Sheet Metal compared to all other (internet) job postings.

Most Relevant Hard Skills

Skill	Relevance Score	Postings with Skill
Model Maker	2,324.44	4
Condensing Steam Locomotive	1,200.31	6
ZBrush	813.51	10
Press Brake	788.55	33
Autodesk Maya	773.32	5

Most Relevant Soft Skills

Skill	Relevance Score	Postings with Skill
Career Development	2.06	8
Learning	0.53	11
Listening	0.51	8
Leading	0.20	6
Scheduling (Project Management)	0.09	15

Appendix A - Data Sources and Calculations

Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

Occupation Data

Emsi occupation employment data are based on final Emsi industry data and final Emsi staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level Emsi earnings by industry.

Completers Data

The completers data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

Institution Data

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

CareerBuilder/Emsi Job Postings

Job postings are collected from various sources and processed/enriched by Careerbuilder to provide information such as standardized company name, occupation, skills, and geography. Emsi performs additional filtering and processing to improve compatibility with Emsi data.

State Data Sources

This report uses state data from the following agencies: California Labor Market Information Department