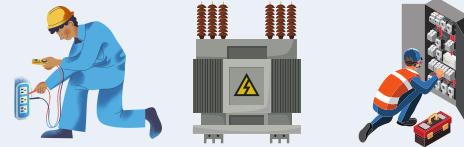


## Industrial Electricians



Industrial Electricians spend most of their time diagnosing, testing and repairing electrical faults in machinery and equipment. They develop a deep knowledge of electrical principles, diagnostic techniques, and mechanics through their work. They have sharp fine motor skills, and strong monitoring and quality control skills. Industrial Electricians are likely to succeed in other skilled trade work where electrical knowledge or diagnostic skills are heavily valued.

### Skills

Skills are developed through training and experience, and are the practical proficiencies someone possesses. The following are top key skills industrial electricians employ in their work:

1. Troubleshooting
2. Repairing
3. Equipment Maintenance
4. Critical Thinking
5. Operations Monitoring

### Tasks

Tasks are the assigned duties that an occupational group performs in their daily work. The following are the tasks industrial electricians most regularly encounter:

1. Test electrical equipment or systems to ensure proper functioning.
2. Maintain repair or maintenance records.
3. Install electrical components, equipment, or systems.
4. Inspect mechanical equipment to locate damage, defects, or wear.
5. Inspect equipment to locate or identify electrical problems.

### Technical Knowledge

Technical Knowledge is the understanding of theory and utility of modern tools in a work environment. The following tools are used by industrial electricians regularly:

1. Computer-aided design software
2. Industrial control software
3. Facilities management software
4. Analytical or scientific software
5. Office suite software

### Abilities

Abilities refer to the innate faculties that allow workers to carry out tasks and activities. The following are the top abilities that industrial electricians possess:

1. Arm-Hand Steadiness
2. Problem Sensitivity
3. Deductive Reasoning
4. Visualization
5. Manual Dexterity

# Skills Transferability Matrix

FOCAL's Skills Transferability Matrices analyze the transferability of an occupation across a multitude of other occupations on the basis of similarities in **skills, technical knowledge, tasks, and abilities** as outlined by the O\*Net database. It aims to show workers how to leverage their skill set in changing occupations, planning a career path, and transitioning to other industries. It also assists policy makers and educators address changing skill sets and areas of opportunity for workforce entrants in developing industries. Employers can also use this tool in reskilling or upskilling workers to circumvent skills shortages, and reduce the hiring and training challenges.

Industrial Electricians					
Occupations	Skills	Technical Knowledge	Tasks	Abilities	Total
Electronic service technicians (household and business equipment)	88%	86%	53%	87%	78%
Construction millwrights and industrial mechanics	91%	86%	45%	86%	77%
Appliance servicers and repairers	92%	86%	36%	90%	76%
Gas fitters	85%	93%	38%	87%	76%
Electrical power line and cable workers	86%	79%	44%	87%	74%
Telecommunications installation and repair workers	89%	64%	48%	89%	73%
Electrical mechanics	94%	71%	29%	89%	71%
Heating, refrigeration and air conditioning mechanics	87%	79%	18%	88%	68%
Oil and solid fuel heating mechanics	87%	79%	18%	88%	68%
Motorcycle, all-terrain vehicle and other related mechanics	88%	64%	26%	88%	66%
Machinists and machining and tooling inspectors	83%	79%	10%	88%	65%
Electricians (except industrial and power system)	83%	71%	11%	84%	62%
Contractors and supervisors, mechanic trades	69%	86%	13%	79%	61%
Contractors and supervisors, machining/other metal forming trades	66%	86%	3%	78%	58%
Tool and die makers	77%	50%	0%	84%	53%

After scanning over 2,600 skills, technical competencies, tasks, and abilities of each of the 500 occupations as defined by the National Occupational Classification (NOC) system, a skills transferability matrix for industrial electricians is produced. In the matrix above, a high score is highlighted in green and indicates the high transferability potential of an attribute of an occupation with that of industrial electricians. Lower or no transferability areas are marked in red. Given the similar nature of work and demands on knowledge, industrial electricians share high transferability with several other roles involving electrical work, with the highest transferability found in household electronic servicing. Moderate transferability to roles in other skilled trades, such as mechanic or machining work is observed, but would require additional certification and training. Though relatively low, transferability to roles in contracting and supervision to mechanic and machining trades is observed. This could be an indicator that with additional training or experience, industrial electricians could transition to supervision roles, or succeed as independent contractors.

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