

Tool and Die Makers



The metalworking operations performed by Tool and Die Makers enable modern manufacturing to take place at a scalable basis. Mould making requires precision to operate machinery, the ability to visualize and interpret designs and then create working models for metals and other alloys. This gives Tool and Die Makers a strong skill and ability foundation to transfer into other positions within the manufacturing industry, including other skilled trades. The technical knowledge basis they possess is desirable in manufacturing, but also heavily applicable to supervisory occupations,

Skills

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

1. Operations & Control
2. Operation Monitoring
3. Quality Control Analysis
4. Judgement & Decision Making
5. Critical Thinking

Tasks

Tasks are the assigned duties that an occupational group performs in their daily work. The following are the tasks tool and die makers most regularly encounter:

1. Read work orders or other instructions to determine product specifications or materials requirements.
2. Repair parts or assemblies.
3. Operate metal or plastic forming equipment. Monitor equipment operation to ensure proper functioning.
4. Assemble metal or plastic parts or products.
5. Program equipment to perform production tasks.

Technical Knowledge

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

1. Computer-aided design software
2. Computer-aided manufacturing software
3. Enterprise resource planning software
4. Materials requirements planning logistics and supply chain 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 tool and die makers possess:

1. Visualization
2. Problem Sensitivity
3. Control Precision
4. Arm-Hand Steadiness
5. Near Vision

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.

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Occupations	Skills	Technical Knowledge	Tasks	Abilities	Total
Machining tool operators	91%	91%	59%	90%	83%
Machinists and machining and tooling inspectors	90%	82%	48%	91%	78%
Metalworking and forging machine operators	89%	91%	43%	87%	77%
Glass forming and finishing machine operators and glass cutters	87%	82%	50%	89%	77%
Plastic processing machine operators	90%	82%	42%	87%	75%
Woodworking machine operators	91%	91%	32%	85%	75%
Structural metals and platework fabricators and fitters	84%	82%	39%	89%	73%
Furniture and fixtures assemblers and inspectors	90%	82%	28%	91%	73%
Other trades and related occupations	88%	73%	38%	87%	72%
Concrete, clay and stone forming operators	88%	64%	40%	90%	71%
Welders and related machine operators	83%	64%	42%	88%	69%
Contractors and supervisors, machining/other metal forming trades	68%	100%	6%	80%	64%
Supervisors, other products manufacturing and assembly	64%	100%	6%	76%	62%
Supervisors, mechanical and other metal products manufacturing	64%	100%	6%	76%	62%
Electricians (except industrial and power systems)	76%	64%	0%	76%	54%

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 tool and die makers 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 tool and die makers. Lower or no transferability areas are marked in red. Tool and die makers were found to have relatively high transferability with other metalworking skilled trades, such as machining and welding, and some transferability with electricians. The abilities and skills of tool and die makers lends well to production roles, specifically those tasked with machine operation. With strong technological transferability and high, though comparatively low skills and ability scores, the correct training for supervisory tasks can enable tool and die makers to be excellent supervisors for metal forming trades, product assembly and manufacturing. Tool and die makers can leverage their skills, technical knowledge, and abilities to progress into supervisory positions in the workplace, or to transition to and between skilled trade and other work within production throughout manufacturing and associated industries.

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