

Building and Construction Industry



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Department of
Education
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INDUSTRY AREA COVERAGE:

GROUP	CLASS	DESCRIPTION
291	-	Prefabricated Building Manufacturing
	2919	Prefabricated Building Manufacturing n.e.c.
411	-	Building Construction
	4111	House Construction
	4112	Residential Building Construction n.e.c.
	4113	Non-Residential Building Construction
412	-	Non-Building Construction
	4121	Road and Bridge Construction
	4122	Non-Building Construction n.e.c.
421	-	Site Preparation Services
	4210	Site Preparation Services
422	-	Building Structure Services
	4221	Concreting Services
	4222	Bricklaying Services
	4223	Roofing Services
	4224	Structural Steel Erection Services
423	-	Installation Trade Services
	4231	Plumbing Services
	4233	Air Conditioning & Heating Services
	4234	Fire & Security System Services (Coverage of: Alarm system, fire, installation; Fire sprinklers, installation; Smoke detectors, installation).
424	-	Building Completion Services
	4241	Plastering and Ceiling Services
	4242	Carpentry Services
	4243	Tiling & Carpeting Services (Coverage of: Floor tiling (using ceramic, concrete or cut stone tiles); Mosaic work on construction projects; Slate flooring installation; Terrazzo laying; Wall tiling; Wall tiling (using ceramic, concrete or cut stone tiles).
	4244	Painting & Decorating Services
	4245	Glazing Services (Coverage of: Window curtain wall installation; Window frame installation).
425	-	Other Construction Services
	4251	Landscaping Services (Coverage of: Fence construction (except agricultural); Garden drainage systems installation (except agricultural); Garden sprinkler systems installation (except irrigation systems); Landscape construction).
	4259	Construction Services n.e.c. (Coverage of: Cladding, metal wall or roof, fixing (to buildings); Insulation materials installation; Petrol bowser installation; Sand or other abrasive blasting of building exteriors; Scaffolding construction; Steam-cleaning of building exteriors; Waterproofing of buildings).
782	-	Technical Services
	7823	Consultant Engineering Services (Coverage of:

		Building consultancy service; Building inspection service; Civil engineering service (consulting); Construction project management service (on a fee or contract basis); Quantity surveying service).
785	-	Marketing and Business Management Services
	7852	Commercial Art and Display Services (Coverage of: Signwriting).

- * ANZSIC Group - Australian New Zealand Standard Industrial Classification
 ** n.e.c. - not elsewhere classified

WORKFORCE ISSUES, CHARACTERISTICS, ACTIVITIES

General Construction

- The industry is influenced heavily by short term business cycles and the financial strength of the government sector and non-government business enterprises as well as by demographic shifts, interest rates and other government policies affecting demand for housing.
- Strong demand continues in the new housing market, renovation activity also continues at a strong rate.
- A number of large infrastructure projects such as the Mandurah Rail Link, and the Burrup Peninsula are increasing demand for construction trades people and project managers.
- It is primarily a male dominated, micro business industry; over 90% are self employed and engaged in contracting or sub contracting.
- The industry is characterised by an aging workforce particularly in the trade areas of Roof Tiling, Bricklaying, Wall and Ceiling Fixing and Concreting which is anticipated to create critical skill shortages in 5-10 years.
- Critical Skill Shortages currently exist in this industry for: tradespeople; construction managers; building inspectors; surveyors; civil and construction engineers; building inspectors and other civil engineering associated professionals.
- High levels of labour mobility are evident, as activity in the mining and petroleum sectors increase, making recruitment of qualified labour difficult.
- Trends include further use of prefabricated and precast components and a rise in tilt up construction, particularly within the commercial and industrial sectors, with the use of steel frames and trusses beginning to appear in the domestic sector.
- The introduction of the 'Green Smart' program has encouraged a focus on environmentally friendly building techniques within the residential sector.
- There is also greater use of Computer Aided Design and Computer Aided Manufacturing in precision manufacturing of building and components.
- There is a Code of Practice for Building and Construction in WA that must be noted.



Civil Construction

- Large infrastructure projects like the Mandurah Rail Link, Burrup Peninsula, Desalination Plant and the Fortescue Metals Group Mine project, will place additional strain on:
 - recruitment of qualified labour;
 - skill shortages; and
 - an increased demand on materials, particularly steel.
- While the workforce is not ageing to the same extent as areas of general construction concern still exists particularly with the lack of upcoming candidates able to assume Project Management roles.

Plumbing and Services

- The introduction of a Compliance and Inspection Framework in July 2004 has seen regulatory responsibility for private water supply, sanitary and drainage plumbing work transfer from licensed water service providers to the Plumbers Licensing Board.
- The new framework will provide for random checks of plumbing work, licensed plumbing contractors, complaints investigation and other compliance activities.

Off-Site

- Incorporates shopfitting and signcrafts.

INDUSTRY ORGANISATIONS / ASSOCIATIONS

This list is a guide only

- Architectural Aluminium Fabrication Association
- Australian Institute of Building
- Australian Manufacturing Workers Union
- Australian Workers Union
- Builders, Labourers, Painters and Plasterers Union of WA
- Ceramic Wall and Floor Tilers Association
- CEPU
- Civil Contractors Federation of WA
- Construction, Forestry, Mining and Energy Workers Union
- Construction Contractors Association of WA
- Contract Carpenters' Association
- Fire Protection Association of Australia
- Housing Industry Association of WA
- Irrigation Association of Australia (WA) region
- Masters Builders Association of WA
- Master Painters Association of WA
- Master Plumbers and Mechanical Services Association of WA
- Master Roof Tilers' Association
- Solid Plasterers' Association
- Sign Association of Australia (WA)

LICENSING OR REGULATORY REQUIREMENTS

WorkSafe Australia

The link to the WorkSafe website is <http://www.safetyline.wa.gov.au> which covers Acts, Regulations and Codes of Practice for the Construction Industry as well as others. Similarly, other National information can be found at <http://www.royalcombcgi.gov.au>

Painters Registration

Legislation: Painters Registration Act No 61 of 1961 (as amended)
Administering Agency: *Painters Registration Board*

Builders Registration

Legislation: Builders Registration Act 1939 (as amended)
Administering Agency: *Builders Registration Board*

Licensed Plumber

Legislation: Plumbers Licensing Board
Water Services Licensing (Plumbers Licensing and Plumbing Standards) Regulations 2000

Sewerage Treatment Apparatus Approval (Septic Tanks etc)

Legislation: Health Act 1911
Administering Agency: *Health Department (Waste Water Management)*

Other Regulatory bodies: *Plumbers' Licensing Board
DOCEP (WA)*

Gas Fitting Permit/Certificate

Legislation: Gas Standards Act 1972
Gas Standards Regulations 2004
Administering Agency: *Energy Safety (Regulating Services Branch)*

Crane Operator, Rigger, Dogger, Scaffolder, Demolition

Legislation: Occupational Safety and Health Regulations Act 1996
Administering Agency: *Worksafe Western Australia*


Surveyor

Administering Agency: *Land Surveyors Licensing Board*

WORKSAFE

For the Building and Construction industry, Worksafe identifies the following areas to be addressed in staff induction and training:

- Tilt up panel construction
- Working at heights
- Electricity
- Manual handling
- Supervisor training



Information on workplace hazards and other work safety and health issues in the Construction industry, please refer to:

<http://www.worksafe.wa.gov.au/newsite/worksafe/pages/websgenl0002.html>

For Codes of Practice – Manual Handling, please refer to

<http://www.worksafe.wa.gov.au/newsite/worksafe/pages/manhindx0001.html>

Information on electrical safety can be found at:

<http://www.worksafe.wa.gov.au/newsite/worksafe/pages/elecindx0001.html>

The Code of Practice for the Prevention of Falls at Workplaces (2004), please refer to

<http://www.worksafe.wa.gov.au/newsite/worksafe/pages/codegenl0001.html>

TRAINING ENVIRONMENT/ISSUES

General Construction

- The trade areas in which training activity is limited include wall and ceiling fixing and tiling.
- The attrition rate from apprenticeships still remains high; however recent research suggests most candidates remain within the industry.
- In response to recent deaths in the tilt up construction area, new regulations and a specific training course has been developed.
- Given it continues to be the biggest killer on construction sites, working at heights remains an issue of concern and a priority area for training. The issue is currently being targeted by national safety authorities and further detail is contained in the 2004 Prevention of Falls Code of Practice.
- Minimal post trade training activity currently takes place however demand for areas such as small business and computing skill remains constant.
- Flexible delivery of training remains an urgent priority given the growth of the micro business and the highly fragmented nature of the industry. Skills recognition through RPL projects continues to be significant in the industry and viable pathway for mature aged workers seeking to acquire qualifications.
- In addition to providing new applicants entry level training to industry, it is a strong requirement to focus on the upskilling of existing workers according to the recent BCITF research. This recommendation is made in response to the identification of significant skill gaps and the low rate of formal qualifications held amongst a number of trade areas.
- Training Package qualifications are currently available for level 1-3 however levels 4-6 remain in the consultation phase.

Civil Construction

- The implementation of the Building Skills Policy is likely to produce a significant increase in demand for training in the civil areas, however industry implementation issues still exist which includes access to appropriate Training Packages.

- The absence of significant formal training activity has resulted in a low rate of qualifications within the industry. The implementation of the revised Training Package will therefore require a recognition/upskilling process to be undertaken with the existing workforce prior to the introduction of new trainees.
- It is expected that the new competency standards for bituminous surfacing, which covers range of surfacing for roads such as asphalt will be adopted in Western Australia once released. Qualifications in mains pipelaying are currently being developed in response to a gap in availability of training for this specialized area.
- The implementation of the Building Skills Policy combined with a significant number of current civil projects being in existence is a scenario likely to produce a significant increase in demand for training in the Civil Construction area.
- Research conducted into this sector suggested a lack of supervisory skills and qualified front-line personnel. In particular there appeared to be deficiencies in general communication and development skills such as task allocation and conflict resolution.
- Traffic Management skills have also been identified as areas of skill deficiency.

Plumbing and Services

- The Plumbing and Services (BCP03) training package has been endorsed.
- Units of competency at levels 4-6 have recently been developed to address state licensing requirements however the endorsement process has not been completed.

Off-Site Construction

- The Off-Site Construction Training Package (BCF00) was originally endorsed in 2000 and is currently being reviewed. Review should be completed by late 2006.
- This industry sector has expressed a strong need for small business and computing skills.

TRAINING PACKAGES

Training Packages covered by this industry are:

Civil Construction – (BCC03)

Civil Construction Training Package Additions – Addition of Road Marking Qualification

General Construction – (BCG03)

General Construction Training Package Additions – Addition of Building Surveying sector.

Off-site Construction – (BCF00)

Plumbing and Services – (BCP03)

Implementation Kits for Training packages can be found at:

<http://www.training.wa.gov.au/training/content-training-packages.asp>

Civil Construction – (BCC03)

This Training Package covers the key operational areas in Civil Construction in the broad areas of plant and non-plant activities. Plant operators in the industry are typically involved in the operation of a variety of machines that may include backhoes, graders, scrapers, front-end loaders, tractor operations and excavators. Non-plant operations include road making and maintenance, tunnel construction, rail and track laying, bridge and marine building and pipe laying. Qualifications range from Certificate I to Certificate III.

Status – Endorsed

Qualifications

National Code	Qualification Name
BCC20103	<u>Certificate II in Civil Construction</u>
BCC20203	<u>Certificate II in Civil Construction (Bituminous Surfacing)</u>
BCC30103	<u>Certificate III in Civil Construction</u>
BCC30203	<u>Certificate III in Civil Construction (Bituminous Surfacing)</u>
BCC30303	<u>Certificate III in Civil Construction (Bridge Construction and Maintenance)</u>
BCC30403	<u>Certificate III in Civil Construction (Foundation Work)</u>
BCC30503	<u>Certificate III in Civil Construction (Pipe Laying)</u>
BCC30603	<u>Certificate III in Civil Construction (Plant Operations)</u>
BCC30703	<u>Certificate III in Civil Construction (Road Construction and Maintenance)</u>
BCC30803	<u>Certificate III in Civil Construction (Road Marking)</u>
BCC30903	<u>Certificate III in Civil Construction (Trenchless Technology)</u>
BCC31003	<u>Certificate III in Civil Construction (Tunnel Construction)</u>

More information on the Civil Construction Training Package and its qualifications and units of competency can be found on the following websites:

<http://www.ntis.gov.au/Default.aspx?/TrainingPackage/BCC03/volume/BCC03>

General Construction – (BCG03)

This Training Package covers the key areas in the general construction sector of the Building and Construction industry and includes wall and floor tiling, wall and ceiling lining, solid plastering, painting and decorating, structural cladding, bricklaying and blocklaying, carpentry – framework and formwork, roof tiling, concreting and steelfixing, stonemasonry demolition and materials handling. The range of qualifications within the Training Package is at Certificate I to Advanced Diploma level.

Status – Endorsed

The training package has recently undergone a review and is now available.

Qualifications

National Code	Qualification Name
BCG10103	<u>Certificate I in General Construction</u>
BCG20103	<u>Certificate II in General Construction</u>
BCG30103	<u>Certificate III in Bricklaying/Blocklaying</u>

BCG30203	<u>Certificate III in Carpentry</u>
BCG30303	<u>Certificate III in Concreting</u>
BCG30403	<u>Certificate III in Demolition (General Construction)</u>
BCG30503	<u>Certificate III in Dogging</u>
BCG30603	<u>Certificate III in Painting and Decorating</u>
BCG30703	<u>Certificate III in Rigging</u>
BCG30803	<u>Certificate III in Roof Tiling</u>
BCG30903	<u>Certificate III in Scaffolding</u>
BCG31003	<u>Certificate III in Solid Plastering</u>
BCG31103	<u>Certificate III in Steel Fixing</u>
BCG31203	<u>Certificate III in Wall and Ceiling Lining</u>
BCG31303	<u>Certificate III in Wall and Floor Tiling</u>
BCG31403	<u>Certificate III in Waterproofing (General Construction)</u>
BCG50103	<u>Diploma of Building Surveying</u>
BCG60103	<u>Advanced Diploma of Building Surveying</u>

More information on the General Construction Training Package and its qualifications and units of competency can be found on the following website:

http://www.ntis.gov.au/Default.aspx?/TrainingPackage/BCG03/volume/BCG03_4


Off-Site Construction – (BCF00)

The Training Package is designed to address the training needs across all sectors of the Off-Site sector of the building and construction industry. These sectors include a diverse and complex range of functions including shopfitting, sign writing, sign manufacture, stonemasonry, wood machining, joinery and pre-fabrication of frames and stairs. The range of qualifications covered by the Training Package is at Certificates I to III.

Status – Endorsed

Qualifications

National Code	Qualification Name
BCF10100	<u>Certificate I in Construction</u>
BCF20100	<u>Certificate II in Off-Site Construction</u>
BCF30100	<u>Certificate III in Off-Site Construction (Shopfitting)</u>
BCF30200	<u>Certificate III in Off-Site Construction (Joinery-Timber/Aluminium/Glass)</u>
BCF30300	<u>Certificate III in Off-Site Construction (Stairs)</u>
BCF30400	<u>Certificate III in Off-Site Construction (Pre-Fabrication)</u>
BCF30500	<u>Certificate III in Off-Site Construction (Machining)</u>
BCF30600	<u>Certificate III in Stonemasonry (Monumental/Installation)</u>
BCF30700	<u>Certificate III in Off-Site Construction (Sign Writing/Computer Operations)</u>
BCF30800	<u>Certificate III in Off-Site Construction (Sign Manufacture)</u>
BCF30900	<u>Certificate III in Off-Site Construction (Neon Manufacture)</u>



More information on the Off Site Training Package and its qualifications and units of competency can be found on the following website:

<http://www.ntis.gov.au/Default.aspx?/TrainingPackage/BCF00>

Plumbing and Services – (BCP03)

The Training Package is designed to address the training needs of the Plumbing and Service sectors such as Gas and Fire Protection. The range of qualifications covered by the Training Package is at Certificates I to III. This is the first time a package has been made available to this industry sector.

Status – Endorsed

Qualifications

National Code	Qualification Name
BCP20103	Certificate II in Drainage
BCP20203	Certificate II in Metal Roofing and Cladding
BCP20303	Certificate II in Urban Irrigation
BCP30103	Certificate III in Plumbing
BCP30203	Certificate III in Plumbing (Mechanical Services)
BCP30303	Certificate III in Roof Plumbing
BCP30403	Certificate III in Gas Fitting
BCP30503	Certificate III in Fire Protection

More information on the Plumbing and Services Training Package and its qualifications and units of competency can be found on the following website:


<http://www.ntis.gov.au/Default.aspx?/TrainingPackage/BCP03>

HIGH RISK TRAINING CONCERNS

With an increasing number of apprentices being given credit for time served in industry a concern exists that valid evidence is not gathered on skills and knowledge gaps nor is a valid plan developed to provide bridging training.

Instances whereby the provision of credits or backdating of apprenticeship terms appear commonplace require close investigation to ensure RPL and training are coexisting to provide quality outcomes.

Another area of concern exists whereby GTS apprentices with employers exceed the required ratio thus compromising the quality of training provided on the job. In addition to this concern with lack of experienced supervision a concern also exists with the scope of training opportunities provided on the job particularly where the employer may specialise in one aspect of the trade.



Whilst it is acknowledged that a partnership scenario can be utilised to supplement deficiencies in industry knowledge amongst assessors the industry desires these skills to be possessed by one individual. In the majority of instances this is likely to be the training provider and close examination of the currency of their skills should therefore become a priority.

NATIONAL INDUSTRY TRAINING ADVISORY BODIES

- Construction Property Services Industry Skills council (CPSISC)
- Building Employment and Training Australia
- Manufacturing, Engineering and Related Services ITAB
- Forest and Forest Products Employment Skills Company

STATE INDUSTRY TRAINING ADVISORY BODIES

Major coverage

Building and Construction Industry Training Council (BCITC)

Partial coverage

Light Manufacturing ITC
Metals, Manufacturing and Services ITC
Primary Industry ITC
Resources Industrial Skills Council (RISC)