

# NATIONAL CERTIFICATE IN BOATBUILDING FILL AND FAIR MARINE SUBSTRATES (Level 3)

103 CREDITS Version 2

An apprentice completing this NZQA registered qualification will gain the knowledge and skills required to be Marine Industry recognized and qualified as a competent **Marine Substrate Filler and Fairer**.

This qualification is designed for apprentices who specialise in the filling and fairing of substrates in preparation for the painting of boat surfaces.

Before being painted boat exterior surfaces need to be fair (perfectly smooth and even). To achieve this, filler is applied to the hollows in the surface and bumps are sanded back. Boats are almost always judged on their appearance and only boats that have been filled and faired properly will look perfect after paint has been applied. Filling and fairing is therefore an important skill in the industry and skilled filling and fairing teams help ensure boats achieve that perfect finish.

The compulsory section of the qualification includes standards that cover an introduction to the Marine Industry, health and safety, use of tools and equipment, calculations and all the essential knowledge and skills for working in this industry sector.

The elective section of the qualification allows candidates to choose standards that relate to the construction medium relevant to their work environment.

This qualification takes on average 1.5 to 2 years to complete.

Mike Vitali



Mike Vitali left school at 16 to take up filling and fairing work and at the age of 22 started his own company ProFair, which did contract work for some of the leading marine industry companies.

His work has taken him all over the world, to many different projects including Gretel 2, a wooden America's Cup yacht from the 1970's. Currently he is the Director of BoatBoys Limited and is getting his skills and knowledge recognized through a process called Recognition of Prior Learning (RPL).

NZ Marine ITO staff will be able to give him credit for past work / experience and he will soon be awarded his National Certificate in Boatbuilding (Fill and Fair Marine Substrates) Level 3.

## NATIONAL CERTIFICATE IN BOATBUILDING (FILL AND FAIR MARINE SUBSTRATES) Level 3 (Version 2)

### Compulsory Unit Standards

Unit Number	Unit Title	Level	Credit Value
414	Demonstrate knowledge of the distribution environment	2	4
3198	Alter resin rheology with fillers, extenders and additives for composites	5	3
9913	Demonstrate a knowledge of the New Zealand marine industry	2	3
9917	Demonstrate knowledge of boatbuilding methods	2	4
18158	Select, use and care for hand tools used in boat building	2	5
18159	Select, use and care for portable power tools used in boatbuilding	2	5
18162	Calculate quantities and costs for boatbuilding projects	3	4
18163	Demonstrate a knowledge of boatbuilding construction drawings and produce related freehand sketches	3	2
18166	Participate in a project team in the boating industry	2	4
23041	Demonstrate knowledge of abrasives and equipment used in marine painting	3	3
23042	Demonstrate knowledge of substrate preparation for marine painting	3	4
23043	Form coves, radiuses and detail on boats using filler	3	4
23046	Demonstrate knowledge of marine paint systems application	3	4
23049	Demonstrate knowledge of composite technology for boatbuilding	4	6
23243	Identify and explain the causes and prevention of material deterioration in the marine environment	4	8
23244	Identify and apply health and safety procedures for the boatbuilding industry	3	4
25113	Describe filling and fairing technology used in boatbuilding	3	4
25114	Mask and protect boats for painting	3	4
25155	Fair boat surfaces	3	4
25156	Fill boat surfaces	3	6
25343	Identify boat fittings and fastenings	2	4
25344	Demonstrate knowledge of marine trades and expectations of employees	2	3
25345	Demonstrate knowledge of terminology used in the marine industry	2	6

**Elective Unit Standards:** Plus at least **one** unit standard from the following list:

Unit Number	Unit Title	Level	Credit Value
11787	Prepare wooden substrates for marine surface coatings	4	5
11788	Prepare fibre-reinforced composite substrates for marine surface coatings	4	5
11789	Prepare steel substrates for marine surface coatings	4	5
11790	Prepare aluminium substrates for marine surface coatings	4	5
18160	Operate mechanical plant used in boatbuilding	2	12
25152	Apply 2D CAD/CAM in boatbuilding	4	5