

**Mike Burdon's Murdunna Garage  
TecEco Hobart (January 2003 - Ongoing)**



Mike has been involved with TecEco since inception with the development of tec-cements and in a private capacity he has been helping us with large scale experiments at his Murdunna property.

To date slabs footings, parts of a launching ramp and some tilt up panels using formulations and materials supplied by TecEco have been tested and the results were beyond expectations.

TecEco concretes were easier to use and place than Portland cement concretes, less forgiving of error and developed good strength.

Observable was the high workability in spite of a low slump due to the Bingham plastic qualities of TecEco tec-cement concretes.

**Figure 1 – Barrowing in a Low Slump Tec-Cement Concrete. Tech Tendons Laid in a Rectangular Pattern Over a First Layer Prior to Finishing with a**

**Second Layer.**

Mike made the following comments about the concrete:

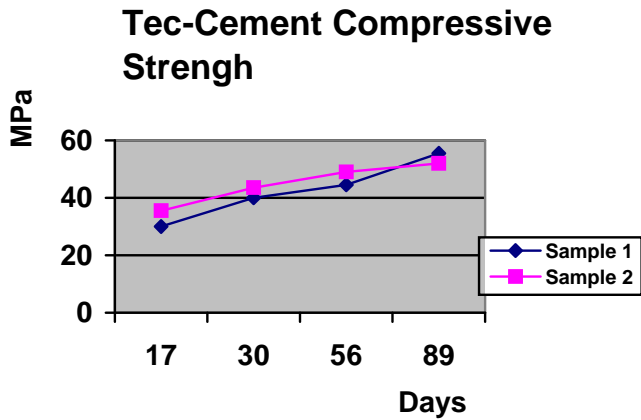
- The rheological performance even without plasticiser was excellent. As testimony to this the contractors on the site commented on how easy the concrete was to place and finish.

- On one job we tested TecEco's formulations with a hired concrete pump and found it extremely easy to pump and place. Once in position it appeared to "gel up" quickly allowing stepping for a foundation to a brick wall and earlier finishing.
- Strength gain was more rapid than with Portland cement controls from the same premix plant and continued for longer.
- The surfaces of the concrete appeared to be particularly hard and I put this down to the fact that much less bleeding was observed than would be expected with a Portland cement only formulation.



**Figure 2 - Mike Burdon Finishing Off the Edges of a Low Slump Placed concrete with an Edging Tool. Insert – The Silky Finish Obtained**

## Technical Information



### The mix was:

Portland Cement	245 Kg
Magnesia	30 Kg
Fly ash	70 Kg
Quarry Dust	215 Kg
White Sand	550 Kg
Blue metal (3 sizes)	1060 Kg

Water was 135 Kg / M<sup>3</sup> Without plasticiser 125 Kg was required to achieve the same workability. Unfortunately the latter mix was not tested. Normally about 380 Kgs of PC would be required for the above strength development.

Note that in all the above cases the strength development is a straight line from day 1.5 to at least ninety days! Early strength development with added supplementary materials is important.