

Project Sheet

Rebate Moulds

Project: Cranebrook Fire Station

Location: Vincent Road, Cranebrook

For: NSW Fire Brigades

Architects: Madden and Associates

Engineers: Close Consultants Pty Ltd

Services: Arkeda

Builder: S C Clifford Constructions Pty Ltd

The Cranebrook residential area north of Penrith is under going a large increase in population. Accordingly services are needed including the provision of a Fire Station to service the expanding area. Currently, the locale is a combination of rural and urban type development but with a large tract of Commonwealth Defence Land to the north.

The building development consists of a combination steel and concrete structure with a large area of concrete hardstand and landscaped grounds surrounding it. It is this concrete area where the combination of Connolly Key Joint and Rebate Mould were used to provide significant savings to the contractor.

Instead of using a conventional "checkerboard" type construction method, Cliffords wanted to carry out this work more effectively, quickly and economically. In conjunction with Brian Close from Close Consultants Pty Ltd various options were considered before the decision was made to use the innovative Connolly Key Joint and Rebate Mould System.

The Connolly 12mm x 12mm Rebate

Mould was chosen as it provides a dimensionally correct square rebate which allows the sealant to be applied and function correctly. The rebate mould was installed on the 150mm Connolly Key Joint prior to placing the concrete in a continuous pour. Thus the key joints provided the contraction joints and no post pour operations were needed to form the sealant rebates.

On favourable acceptance by the engineer, Cliffords set about preparing the area and pouring the concrete.

Paul Ryan, site manager for this project was very pleased with the speed of the result where he estimates that he saved about 1 week in construction time and with it subsequent monitory savings. In addition to this, a substantial saving was made on the hire and set up costs of the concrete pumps.

Work was scheduled to commence at the rear or the site, progressively working out to the front entrance over several days. Using the Connolly Key Joint system, enabled much larger pours on each day with day 1 being of 90 cubic metres.

The Rebate Moulds were later removed after initial curing and Parchem "Road Seal" sealant used to seal of the top of the joints. This offered a relatively chemical resistant barrier, at the contraction joint, to resist the infiltration of vehicle waste such as oil, diesel and other contaminants.



Front of Fire Station



Entry to Fire Station



Car Park Area