



Design - Explaining shop drawings

Shop drawings are fundamental for building construction when using precast concrete elements. This fact would be undisputed by everyone in the building industry but it seems that their preparation is not always a seamless activity. With technology advances and today's almost incessant demand for instant communication, it would appear that the preparation of shop drawings has become an area of angst for many.

So what is meant by shop drawings?

As with many terms or phrases used for a long time in the building industry, 'shop drawings' means many different things to different people and is often described poorly in contracts and project documentation. Local variations in understanding between the states and territories of Australia are also often seen.

In simple terms a shop drawing is the drawing containing all the information necessary for the manufacture of an individual element. Shop drawings are always prepared for elements such as wall panels, beams, and columns that are manufactured specifically for a project. Some elements, such as standard pre-stressed flooring elements, will not require individual shop drawings, in

which case their intended use will be shown on a floor marking plan.

The review and approval of shop drawings should always be undertaken by the project design team, i.e. principal contractor (builder), project design engineer and architect, before any manufacture is commenced. The review process increasingly uses online project document management systems to control this activity.

Shop drawings: what should they show?

- Drawing number
- Project name and location
- Scale and drawn/checked/verified details
- Sign-off box for the "Approving Engineer"
- Element number and weight

FACT SHEET

- Number of elements to be cast
- Element dimensions and centre of gravity
- Concrete grade and cover to reinforcing
- Surface finish to all surfaces
- Position and size of all reinforcement
- Location and product specification of all cast-in fittings (eg. for lifting bracing & connections / fixings)
- Any special handling or storage requirements, e.g. strongbacks
- Quality assurance checks.