

APPROVED MATERIALS LIST



Quality Assurance for the Manufacture of Low Risk Approved Materials

For a material's acceptance onto the Approved Materials List, Christchurch City Council requires proof of the three strands of quality assurance in that material's manufacture: application of NZ or Australian manufacturing standards, application of a certified ISO 9001 Quality Management System and compliance with the Council's Performance Standards.

Council has determined that the achievement of this level of quality assurance is excessive for the production of selected low risk materials. Low risk materials are typically not installed as part of the reticulated wastewater or drinking water network i.e. pipes or fittings.

A reduced level of required quality assurance is therefore acceptable to Christchurch City Council for small New Zealand based manufacturing companies that are manufacturing these selected 'approved materials'. The materials are defined as Low Risk Manufacture (LRM) and must fulfil the following criteria:

1. Material is batch made to order for use in Christchurch City – typically small volumes produced
2. These materials pose a negligible risk to the Council's ability to deliver the services required by the LTCCP.
3. These materials pose a low risk to Council of the material's failure causing injury to any person and negligible risk of major injury.
4. The approved dimensional tolerances against adjoining materials will not reduce the level of service delivered by Council infrastructure.
5. The material approval will be for a 'complete' material i.e. cover and frame to obviate the requirement for Council to determine inter-component tolerances.
6. The LRM manufacturer will illustrate at application that their product complies with the Council performance requirements, through the supply of a prototype for approval
7. The material type must be designated as Low Risk by the Approved Materials group.

Examples of materials that could be accepted onto the approved materials list with LRM quality assurance certification are:

- Untrafficked polyethylene service covers
- Untrafficked polyethylene structures in the stormwater system (less than 1.0m depth)

Quality system components

The quality system and LRM management processes will be assessed by the Approved Materials team for its ability to ensure the following aspects are adequately controlled:

1. raw materials
2. manufacture - material properties
3. production - dimensional consistency
4. inventory
5. system robustness

Raw Material Quality

- The supplier of the raw material will operate an ISO 9001 system covering manufacture and supply of raw material.
- The LRM QA system will illustrate that it is able to track the use of the raw material through to particular finished product batches.
- The LRM QA system will illustrate how the supply of components fabricated elsewhere will be audited to ensure consistent quality.

Manufacture Quality

- The LRM QA system will illustrate how information specific to the raw material e.g. manufacturing parameters applicable to the manufacture process or storage requirements, is used in the manufacturing process. If the raw material supplier is changed, a new prototype is to be provided to verify the product still complies.
- The LRM QA system will detail calibration of manufacturing machinery against the limits provided by the raw material supplier.
- The LRM QA system will illustrate control of the manufacturing process, for example staff competencies, time sensitive processes, cleanliness, material storage, material measurement tolerances.

Production Quality

- The LRM QA system will illustrate how dimensional variation between products is controlled e.g. using the same raw material quantities, the same mould/s or jigs in production. If these control mechanisms are changed, a new prototype is to be provided to verify the product still complies.
- The LRM QA system will illustrate how the incorporation of components fabricated elsewhere will be audited to ensure consistency in the product.
- The LRM QA system will illustrate how wear on the mould or jig will be monitored to control dimensional variation over time.

Inventory Quality

- The LRM QA system will illustrate how manufactured products are audited for compliance with the product requirements.
- The LRM QA system will illustrate how product (or batch) traceability is provided.

Quality System

- The LRM company will describe how the quality system will be audited and improved over time.

Approval of QA systems for LRM materials

Application should be made in tandem with the material approval through the Approved Material Group at approvedmaterials@ccc.govt.nz. Provide information to verify the above requirements.

Provide detail of any particular installation requirements that are not addressed by the Construction Standard Specifications, to allow an assessment of constructability and the potential amendment of these standards to facilitate use.

Site visits to permit inspection of existing systems may be beneficial and could be arranged.

The Approved Materials Group will approve or decline the application within the timeframes on the Approved Materials website <http://www.ccc.govt.nz/business/constructiondevelopment/approvedmaterials.aspx> and notify the applicant accordingly.

LRM Quality System Checksheet

Company: _____

Material description: _____

Application: water supply/wastewater/stormwater

Aspect	Detail/documentation	Yes/No
1. Raw Material		
a. supplier QA		
b. usage traceability		
c. external supplies		
2. Manufacture		
a. raw material parameters		
b. machinery calibration		
c. process control		
3. Production		
a. dimensional control		
b. fitting of components		
c. wear		
4. Inventory		
a. auditing compliance		
b. product traceability		
5. Quality system		
a. improvement		

Assessed by: _____

Date: _____