

TNZ Q/1:1995

SPECIFICATION FOR QUALITY ASSURANCE FOR CHIPSEALING

1. SCOPE

This specification covers the quality assurance requirements for contracts which include surfacings work incorporating chipsealing.

2. SYSTEM REQUIREMENTS

Surfacings work shall be carried out by a contractor that has an approved quality assurance system in place that has been certified by a Joint Accreditation System Australia and New Zealand (JAS-ANZ) accredited agency.

The approved quality assurance systems are either:

- NZS ISO 9002:1987 or NZS ISO 9002:1994; or
- Transit New Zealand Quality Standard TQS1:1994.

This system shall be in place prior to award of the contract

The approved quality assurance system shall also include the technical requirements for the control of chipsealing stated in this specification Q/1.

3. TECHNICAL REQUIREMENTS

The control of chipsealing is defined under four headings: design, materials, plant, and construction. For each heading, procedures and documentation shall be provided to cover the components detailed in this specification Q/1.

4. DESIGN

Before construction for a design and build contract, and before tendering for all other contracts, the following checks must be performed.

4.1 Contract Review

A contract review shall be performed to verify the availability and suitability of resources proposed for the contract, and the appropriateness of the contract time frame.

4.2 Materials

Specific checks shall be made for materials which are intended for use in the contract including:

- (a) Aggregate — check that the intended aggregate source can meet the specified source and production properties.
- (b) Bitumen — check the availability of the specified bitumen grade and quality.
- (c) Other materials — check the availability of specified materials, the shelf life, that the grade and quality are within the specified limits, and that the handling and storage facilities are adequate for the intended purposes.

4.3 Production and Laying Tolerances

Check that specified design criteria are within current plant capabilities.

5. MATERIALS

Procedures for controlling aggregate, bitumen, bituminous emulsions, diluents and adhesion agents shall be stated, and these shall include the requirements for:

- material specification;
- delivery acceptance;
- handling, stockpiling, and storage;
- compliance testing.

6. PLANT

Plant calibration and check systems shall be detailed to cover control of blending, cartage, spraying, and rolling processes.

6.1 Blending

Blending of bitumen with additives shall be performed with a system that has detailed calibration procedures and methodologies covering:

- measurements of components;
- temperature measurements;
- blending effectiveness;
- compliance testing.

Delivery dockets shall detail bitumen grade, concentration of additives, date and time of blending, and volume delivered.

6.2 Bitumen Distributors

All bitumen distributors shall have a current certification to the BCA E/2 specification.

A methodology shall be included for distributors covering critical aspects of their operation.

The spray rate limitations of the distributors shall be clearly stated.

6.3 Chip Spreaders

A methodology shall be included for the chip spreaders covering critical aspects of their operation .

6.4 Rollers

A methodology shall be included for each roller covering critical aspects of its operation, including tyre pressures and weights.

7. CONSTRUCTION

The control of construction shall cover final design checks, construction methodology, site acceptance, and maintenance.

7.1 Final Design Checks

Checks shall be performed to confirm:

- (a) supplied chip average least dimension (ALD);
- (b) diluent content to be used;
- (c) required hot applied binder application rates.

7.2 Construction Methodology

A methodology shall be detailed that includes:

- traffic control;
- location of spray runs;
- verification that bitumen distributors have a current certification to the BCA E/2 specification;
- checks on spray rate and distribution;
- checks on overlap of spray runs;

- hand spraying;
- temperature checks;
- chip application methods;
- checks on chip application rates;
- weather limitations;
- removal of surplus chip;
- safety requirements;
- time limits from blending adhesion agent to use.

Procedures for controlling non-conformance shall be detailed, including the identification of personnel authorised to stop construction.

7.3 Site Acceptance

Procedures shall be established to assess the site that include:

- suitability of the surface for the proposed treatment;
- sweeping;
- removal/protection of raised pavement markers;
- protection of furniture, including manhole covers.

7.4 Maintenance

Procedures shall be detailed that cover inspection of the seal during the construction maintenance period.

Methodologies shall be detailed for determining appropriate repair techniques.

Personnel authorised to determine and approve repairs shall be identified.