

CERTIFICATE OF COMPLIANCE NZTA T/12:2013

Applicator: Hino FC Mac Stripper, registration number BQY303, fleet number T91, Plant Number:116033 Type LA

Owner: Downer NZ Ltd
Private Bag 14925 Pamure 1741
Auckland

Test Description: **The pavement marking applicator as described by this certificate has been tested under the conditions described and found to comply with the relevant requirements of TNZ Specification NZTA T/12:2013.**

Test Conditions: The scope of the Certification was as follows:
 1) Application of Extruded Flat Thermoplastic to Schedule One, with thickness in accordance with NZTA P/22:2006, NZTA P30:2008 and NZTA T12:2013.
 2) Application of Audio Tactile Markings to Schedule Two, with markings in accordance with NZTA M/24:2006, NZTA P30:2008 and NZTA T12:2013.
 3) Application of Profiled Multi Dot Line Markings to Schedule Three, with thickness in accordance with ITS Multi Dot Line Technical Specification NZTA P/30:2008 and NZTA T/12:2013.

Test Identification: The tests were carried out at the Downer NZ Depot at 133 Main South Rd Green Island, Dunedin, from January 16th 2020 to February 12th 2020.
 The Applicator Chassis Number is 0H0FC4JJPXXX101157.
 The test materials used were:
 Ennis Premium Extrusion Grade for Schedule One.
 Ennis Premium ATP Grade for Schedule Two.
 Ennis Premium Multi Dot Grade for Schedule Three
 Potters Type B Drop-On Glass Beads were used for Schedule One, Two and Three

Equipment Tested:

| | | |
|------------------------|------------------------|---------|
| Extrusion Heads | Mini Mac | FC |
| | Hofmann Multi Dot Line | |
| | ITS Profile Head | |
| Extruder | Mini Mac 75mm | FC |
| Temperature Controller | Carel | FC |
| Compressor | Ingersoll Rand | 8830199 |
| Speedometer | Roadmarker | FC |
| Bead Gun | Graco Bead Gun | |

Applicator Speeds:

| Schedule | Line Width | | | |
|----------|------------|-------|-------|-------|
| | 100mm | 150mm | 200mm | 300mm |
| One | | 4.1 | | |
| Two | | 3.8 | | |
| Three | | 4.5 | | |

Special Notes: The applicator is not capable of applying turn arrows.

Premelter: Nissan PreMelter Unit XG2463 T/18 Certificate No:5024 was used for the T/12 tests.

Schedule One

Extruded Flat Thermoplastic in Accordance with NZTA P/22:2006

The markings when applied to flat electro-galvanised steel plates met all dimension and performance requirements as specified in NZTA P22: 2006, NZTA P30: 2008 and NZTA T12:2013.

The values specified in NZTA P/22:2006 used for determination of compliance were as follows:

Gap Length Between Segments

Where gap is 3.0m or more $\pm 300\text{mm}$

Where gap is less than 3.0m but greater than 1.0m $\pm 150\text{mm}$

Where gap is 1.0m or less $\pm 50\text{mm}$

Length of Segments

Where segment is longer than 5.0m $\pm 150\text{mm}$

Where segment is shorter than 5.0m but longer than 1.0m $\pm 75\text{mm}$

Where segment is 1.0m or shorter $\pm 50\text{mm}$

Thermoplastic Line Width

All line widths $+10\% - 5\%$

Thermoplastic Height

New markings – asphalt 2.0 – 2.5mm

New markings – chipseal 2.0 – 3.0mm

Retroreflectivity

AS/NZS 2009 Potters Pristine Drop-On Glass beads applied uniformly at a minimum rate of 300 grams/m²

Reflectivity (dry – R): A minimum of 150 mcd/m² /lux.

Reflectivity (condition of wetness – RW): A minimum of 80 mcd/m² /lux.

Skid Resistance

Greater than 50 BPN but less than 65 BPN



Schedule Two

Thermoplastic Audio-Tactile in Accordance with NZTA M24: 2006, NZTA P/30:2008 and T/12:2013

The markings when applied to flat electro-galvanised steel plates meet all dimension and performance requirements as specified in NZTA M24: 2006 Specification for Audio-Tactile Profiled Roadmarkings, NZTA P/30:2008 Specification for High Performance Roadmarkings and NZTA T/12:2013 Specification For Long-Life Pavement Marking Material Applicator Testing.

The values specified in NZTA M/24, NZTA P/30 and NZTA T/12:2013 used for determination of compliance were as follows.

Thermoplastic Line Width

All line widths +10% - 5%

Thermoplastic Base Height

N/A Profile Blocks only

Raised Blocks

Spacing between blocks +5% - 5% of specified value (250mm)

Spacing between blocks +5% - 5% of specified value (500mm)

Length of block +30% - 20% of specified value (50mm)

Width of block +30% - 20% of specified value (150mm)

Block Height -5% +15% of specified value (8.0mm)

Retroreflectivity

AS/NZS 2009 Potters Pristine Drop-On Glass beads applied uniformly at a minimum rate of 275 grams/m²

Reflectivity (dry - R): A minimum of 150 mcd/m²/lux.

Reflectivity (condition of wetness - W): A minimum of 80 mcd/m²/lux.

Skid Resistance *Not Applicable*



Schedule Three

Profiled "MultiDotLine" - markings in Accordance with ITS Technical Specification, NZTA P/30:2008, and NZTA T/12:2013

MultiDot Line Application

Inside of a housing a hollow cylinder (scattering drum) positioned at the periphery and equipped with outlets is rotating during forward movement of the extruder. At a lockable slot, which width corresponds to the requested line width, outlets continuously open and close when the cylinder periphery is sliding along towards the road. Through these outlets the thermoplastic marking material will be applied in portions on the road.

The result is an exact defined regular pattern with regular distribution.

The markings when applied to flat electro-galvanised steel plates meet all dimension and performance requirements as specified in NZTA P/30:2008 Specification for High Performance Roadmarkings.

The values specified in NZTA P/30:2008 used for determination of compliance were as follows:

Gap Length Between Segments

Where gap is 3.0m or more $\pm 300\text{mm}$

Where gap is less than 3.0m but greater than 1.0m $\pm 150\text{mm}$

Where gap is 1.0m or less $\pm 50\text{mm}$

Length of Segments

Where segment is longer than 5.0m $\pm 150\text{mm}$

Where segment is shorter than 5.0m but longer than 1.0m $\pm 75\text{mm}$

Where segment is 1.0m or shorter $\pm 50\text{mm}$

MultiDotLine Dots

Dot height 4.0mm $\pm 1.0\text{mm}$

Length of Dot +30% - 20% of specified value (50mm)

Width of Dot +30% - 20% of specified value (20mm)

Minimum material application rate of 6kg/m²

A coverage between 55 and 75%

MultiDotLine Widths

All line widths +10% - 5%

Retroreflectivity

AS/NZS 2009 Potters Pristine Drop On Glass beads applied uniformly at a minimum rate of 300 grams/m²

Reflectivity (dry - R): A minimum of 150 mcd/m²/lux.

Reflectivity (condition of wetness - RW):

A minimum of 80 mcd/m²/lux.

Skid Resistance

Greater than 50 BPN but less than 65 BPN



CERTIFICATE OF COMPLIANCE NZTA T/12:2013



Registration Details: [NZTA Stamp & Unique Number]

Initial Certificate Issuing Officer: **R J Ridings**
Quality Surveillance Ltd

5098

 **The New Zealand Roadmarkers Federation Inc.**
PO Box 13 605, Auckland
Phone: (09) 625 7470

Testing Officer: **P Del Favero** Downer NZ LTD

Signed:



Date of Expiry: **12 February 2021**