

PRODUCT TECHNICAL STATEMENT (PTS)

ShadowDeck™ SuperSpan Aluminium Subframe System — New Zealand and Australia

1. IDENTIFICATION

Document reference	SD-PTS-SS — Version [2.0]
Issue Date	29 September 2026
Supersedes	SuperSpan PTS dated 24/06/2025 (validity date 27/07/2025)
Validity / Review Date	[Date — set to the earliest expiry or review date of the evidence listed in Section 7]
Issued By	ShadowDeck Limited, trading as ShadowDeck™

1. SUPPLIER DETAILS

Manufacturer (legal name)	[Legal name of the manufacturer — if SuperSpan profiles are extruded/fabricated overseas, name the overseas manufacturer here]
Manufacturer Trading name	[Trading name]
Manufacturer Address for Service	[Address]
Manufacturer Website / Email	[Website] / [Public email]
Manufacturer NZBN	[NZBN, if any]
Importer / NZ supplier (Legal Name)	ShadowDeck Limited
Importer Trading Name	ShadowDeck™
Importer Address for Service	[Registered address for service of ShadowDeck Limited]
Importer Website / Email	www.shadowdeck.co.nz / [Public email]
Importer NZBN	[NZBN of ShadowDeck Limited]
Phone	[Phone]

Delete the manufacturer rows if ShadowDeck Limited is itself the New Zealand manufacturer, and describe it as the manufacturer instead.

2. PRODUCT IDENTIFICATION

Product name	ShadowDeck™ SuperSpan Aluminium Subframe System
Product line	ShadowDeck™ SuperSpan
Product identifier	[List component codes for aluminium joists, bearers and turf baseboards; Grade 316 stainless steel connection brackets, M6 T-head bolts and M6 flanged nuts; and nylon tile spacers, biscuit joiners, T-joiners and hidden deck fasteners — or refer to “SuperSpan Component Schedule, ref. ..., version ...”]
BPIR classification	Class 1 building product (Building Product Information Requirements) Regulations 2022, Schedule 1)

3. PRODUCT DESCRIPTION

ShadowDeck™ SuperSpan is a proprietary aluminium subframe system for decks. It consists of extruded 6061-T6 aluminium joists and bearers, joined with Grade 316 stainless steel connection brackets, M6 T-head bolts and M6 flanged nuts. It also includes black injection-moulded UV-stabilised nylon components that locate in the top channels (tile spacers, biscuit joiners, T-shaped joiners and hidden deck fasteners). It provides a low-profile, long-span framework that carries imposed loads of up to 5 kPa. It is used in place of a conventional timber subframe for low-level decks, where rot resistance and dimensional stability are wanted.

Aluminium finish: [mill finish / anodised / powder coated — confirm]. Stainless steel components: Grade 316 (bolts and nuts property class A4-70 [confirm]). Nylon components: UV-stabilised nylon [PA6 / PA66 — confirm], black. Profile dimensions and section properties: refer [SuperSpan technical data sheet reference].

SuperSpan is designed to support the following deck surfaces:

- Hardwood timber decking boards, including ShadowDeck™ Kwila Watershed Profile with concealed fixings.
- Composite decking boards.
- Exterior-grade structural porcelain tiles.
- Synthetic turf on the SuperSpan aluminium turf baseboard, with concealed fixings.

4. SCOPE OF USE

When designed and installed in accordance with this statement, the SuperSpan span tables and the SuperSpan Installation Guide, SuperSpan is intended for use as the structural subframe of horizontal external decks. This includes residential and [light commercial — confirm] buildings. It is intended for decks that are free-standing or attached to a building, on ground, on concrete slabs or on other substrates capable of supporting the loads.

Applications outside this scope, including vertical applications, require specific engineering design. Contact ShadowDeck™ for advice.

5. LIMITATIONS OF USE

- For use as a subframe for horizontal (level or low-fall) deck surfaces only. Vertical or other applications require specific engineering design.
- Maximum imposed load 5 kPa. Spans, member sizes, fixing centres and support spacings must not exceed the SuperSpan span tables [document reference and version].
- Maximum finished deck height above cleared ground: [e.g. 1.0 m — confirm the height range covered by the evidence]. Above this, or where the deck supports concentrated loads (e.g. spa pools, planters, vehicles), specific engineering design is required.
- SuperSpan is not a safety barrier. Where a fall of 1 m or more is possible, a barrier complying with NZBC Clause F4 must be provided and designed separately.
- SuperSpan must not be installed in direct contact with copper-based treated timber (e.g. CCA or copperazole), copper, uncoated steel or other dissimilar metals without an approved isolation layer, and must not be cast into or left in contact with wet concrete or mortar.
- Exposure: suitable for NZS 3604 zones B, C and D (AU AS 4312 categories C1–C4). Zone D (C4) requires full isolation and increased maintenance. Use in sea-spray zone E or geothermal areas requires [specific approval from ShadowDeck / specific design].
- Where installed over a waterproof membrane (e.g. roof or podium deck), the membrane system, its protection and drainage are outside the scope of this statement and must be separately specified.
- Only components supplied as part of the SuperSpan system, and fasteners specified in the Installation Guide, may be used.

6. NEW ZEALAND BUILDING CODE COMPLIANCE

Compliance pathway: Alternative solution. SuperSpan is not covered by an Acceptable Solution or Verification Method, and it does not hold CodeMark certification. Compliance with the performance requirements of the clauses below is demonstrated by the evidence listed in Section 7. This applies when the product is used within the scope and limitations of this statement.

NZBC Clause	Performance Requirement(s)	How SuperSpan contributes to compliance
B1 Structure	B1.3.1, B1.3.2, B1.3.3 [confirm the load cases evidenced, e.g. (a) self-weight, (b) imposed gravity loads from use, (f) earthquake, (j) ...], B1.3.4	SuperSpan forms the load-bearing subframe of the deck. When designed to the SuperSpan span tables and installed to the Installation Guide, it carries the self-weight of the deck surface and imposed loads up to 5 kPa, and transfers them to the supporting pedestals, footings or substrate without failure or excessive deflection.
B2 Durability	B2.3.1 [(a) not less than 50 years, confirm the evidence supports this period for the subframe], B2.3.2	The 6061-T6 aluminium profiles and Grade 316 stainless steel brackets and bolts are not susceptible to rot or insect attack and have good corrosion resistance. The nylon components are UV-stabilised. Durability relies on the stainless steel being isolated from the aluminium, and on the exposure-zone and maintenance requirements in this statement being followed.
D1 Access Routes	D1.3.3 [confirm sub-clauses relied on]	SuperSpan provides a stable, level and adequately supported base for the deck surface that forms the access route. Slip resistance is a property of the decking, tile or turf surface selected, and is outside the scope of SuperSpan.
E2 External Moisture	E2.3.3 [confirm]	SuperSpan is non-absorbent and does not transmit moisture. The open subframe allows water to drain freely and allows ventilation beneath the deck surface. It does not form a waterproof membrane and must not be relied on to protect the building envelope.
F2 Hazardous Building Materials	F2.3.1	The aluminium, stainless steel and nylon components present no health hazard to people when installed and used as intended.

Clauses not claimed: F4 Safety from Falling (barriers are outside the system). Other clauses relevant to the deck surface material are addressed in that material's own technical literature.

7. EVIDENCE SUPPORTING COMPLIANCE

The following evidence is held by ShadowDeck Limited. It is available to building consent authorities and designers on request.

Evidence	Prepared by	Reference / Date	
Structural design and span tables, with a producer statement (PS1) where applicable	[Name, CPEng, firm]	[Ref / date]	B1
Load testing of joists, connections and supports	[Test laboratory — IANZ-accredited where possible]	[Report no. / date]	B1
Independent peer review of the structural design	[Name, CPEng, firm — independent of the designer]	[Ref / date]	B1
Alloy and temper certification for 6061-T6 extrusions (mill certificates to AS/NZS 1734 or AS/NZS 1866 [confirm standard])	[Extruder]	[Ref / date]	B1, B2
Durability assessment covering corrosion, exposure zones, dissimilar metal contact and fasteners	[Author]	[Ref / date]	B2
Material certification for Grade 316 stainless steel components, and UV-stabilisation data for the nylon components	[Suppliers]	[Ref / date]	B2

Evidence	Prepared by	Reference / Date	Supports
In-service history (installations, locations, years in service)	ShadowDeck Limited	[Summary ref / date]	B1, B2
Installation Guide and Maintenance and Care Guide	ShadowDeck Limited	[Versions / dates]	All

8. DESIGN REQUIREMENTS

- Select member sizes, spans and support spacings from the SuperSpan span tables [reference] for the design load (up to 5 kPa).
- Foundations, footings, pedestals and substrates must be designed to carry the loads from the subframe. Footings on ground are to be designed under NZS 3604 or by specific design; bearing on existing slabs or membranes requires confirmation of substrate capacity.
- Allow bracing / lateral restraint as set out in the Installation Guide [or specific design for decks above x m] to resist earthquake and wind actions.
- Where the deck adjoins a building, maintain the clearances from cladding and floor levels required by NZBC E2 and the cladding manufacturer, and do not bridge any cavity or weathertight junction.
- Provide fall and ground drainage so that water does not pond beneath the deck, and maintain ventilation to the underside.
- Use only the Grade 316 stainless steel connection brackets, M6 T-head bolts and M6 flanged nuts supplied with the system, and the deck-surface fixings listed in the Installation Guide. Isolate stainless steel from aluminium at contact faces using [isolation washers / anti-corrosion compound — confirm method].
- The decking, tile or turf surface fixed to SuperSpan must be selected and installed in accordance with its own manufacturer's technical literature.

9. INSTALLATION REQUIREMENTS

- Install in accordance with the ShadowDeck™ SuperSpan Installation Guide [reference, version and date] and good trade practice.
- Installation is to be carried out by a ShadowDeck™ accredited installer or a Licensed Building Practitioner. Where the work is restricted building work, it must be carried out or supervised by an LBP holding the relevant licence class.
- Cut ends and drilled holes are to be deburred. Swarf is to be removed from the deck surface and the subframe.
- Fit isolation pads or tape at all contact points with treated timber, concrete, masonry or dissimilar metals, and isolate the stainless steel brackets and bolts from the aluminium as specified.
- Tighten the M6 T-head bolts and flanged nuts to 7 Nm ($\pm 10\%$) using a calibrated torque wrench or torquelimited driver. Do not use impact drivers. Apply the anti-galling / anti-corrosion compound specified in the Installation Guide to the threads before assembly. [Confirm this torque with the structural engineer and by testing in the SuperSpan channel.]
- Fit the nylon tile spacers, biscuit joiners, T-joiners and hidden deck fasteners into the top channels as shown in the Installation Guide. Do not substitute other clips or fasteners.
- Check the subframe is level, correctly spaced and fully fixed before the deck surface is installed.

10. BUILDING CONSENT INFORMATION

Where a building consent is required, the following documents should be included with the application:

- This Product Technical Statement.
- The SuperSpan span tables and Installation Guide, marked up for the project.
- A producer statement (PS1) or site-specific structural design where the deck is outside the span tables or the limitations in Section 5.

- Barrier, foundation and weathertightness details, where applicable.

Some low-level decks may be exempt from building consent under Schedule 1 of the Building Act 2004. Exempt building work must still comply with the Building Code.

11. MAINTENANCE REQUIREMENTS

- Inspect the subframe and fixings at least annually. Inspect more often in coastal or high-exposure locations.
- Keep the area beneath the deck clear of leaves and debris so that drainage and ventilation are maintained.
- Check the M6 T-head bolts and flanged nuts are tight (7 Nm), and that the nylon spacers, joiners and hidden deck fasteners are in place and undamaged. Replace damaged or corroded parts with ShadowDeck™ components only.
- Check isolation materials remain in place at all contact points, particularly after any alterations.
- In coastal areas, wash exposed and accessible aluminium surfaces with fresh water [every x months].
- Refer to the ShadowDeck™ Maintenance and Care Guide [reference] for full requirements. Failure to maintain the system may affect its durability and any warranty.

12. WARRANTY

[Insert warranty period and conditions, or refer to the ShadowDeck™ warranty document and its reference.]

13. DECLARATION — WARNINGS AND BANS

ShadowDeck™ SuperSpan Aluminium Subframe System is not subject to a warning or ban under section 26 of the Building Act 2004.

14. MATERIAL PROPERTIES

Typical properties of aluminium alloy 6061 in the T6 temper are shown below. These are published values for the alloy. Project-specific values are taken from the mill certificates and the structural design listed in Section 7.

Property	Typical value (6061-T6)
Density	2.70 g/cm ³
Ultimate tensile strength	290–310 MPa
0.2% proof (yield) strength	240–275 MPa
Modulus of elasticity	≈ 68.9 GPa
Elongation at break	≈ 8–12%
Hardness	≈ 95 HB
Coefficient of thermal expansion	≈ 23.6 × 10 ⁻⁶ /°C
Melting range	≈ 582–652 °C

Element	Composition (%)
Aluminium (Al)	Balance ($\approx 95.8\text{--}98.6$)
Magnesium (Mg)	0.8–1.2
Silicon (Si)	0.4–0.8
Iron (Fe)	≤ 0.7
Copper (Cu)	0.15–0.4
Chromium (Cr)	0.04–0.35
Zinc (Zn)	≤ 0.25
Titanium (Ti)	≤ 0.15

Typical composition of aluminium alloy 6061.

Grade 316 stainless steel (connection brackets, M6 T-head bolts and M6 flanged nuts) — typical values:

Property	Typical value (Grade 316)
Composition	Chromium 16–18%, nickel 10–14%, molybdenum 2–3%, manganese $\leq 2\%$, carbon $\leq 0.08\%$, iron balance
Density	$\approx 8.0 \text{ g/cm}^3$
Ultimate tensile strength	$\geq 515 \text{ MPa}$
0.2% proof (yield) strength	$\geq 205 \text{ MPa}$

Nylon components (tile spacers, biscuit joiners, T-joiners, hidden deck fasteners): black, UV-stabilised nylon [PA6 / PA66 — confirm]. Properties: refer to the supplier data sheet [ref]. These components locate the deck surface and are not part of the primary structure. Aluminium and stainless steel are fully recyclable at end of life.

15. CONTACT AND DISCLAIMER

For technical enquiries, contact ShadowDeck™ on [phone] or [email], or visit www.shadowdeck.co.nz.

This statement applies only to SuperSpan components supplied by ShadowDeck Limited, when they are designed, installed and maintained as described here and in the referenced ShadowDeck™ documents. Check www.shadowdeck.co.nz to confirm this is the current version.

Authorised by	[Name, position]
Signature	
Date	29 September 2026