

Dura Deck Aluminium

Aluminium Decking for Balconies & Terraces



UK Patent Application
No. 1908556.2

Dura Deck Aluminium is a Patent-Pending Aluminum decking system designed for high-rise balconies and public areas that require Class A2 Fire Rating.

Unlocking the Power of Composites
» for High Rise Balconies & Terraces

dura[®]
composites



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About Us

Dura Composites is a leading supplier of composite products with over 23 years' experience in delivering durable, performance-improving and cost-effective composite solutions to a wide range of industries.

We help companies of all sizes unlock the power of composites, and our client base includes businesses in the Industrial, Construction, Rail, Transport, Landscaping, Marine and Leisure sectors.

Our success is driven by our commitment to innovation and by empowering our staff to inspire, educate and problem-solve for customers.

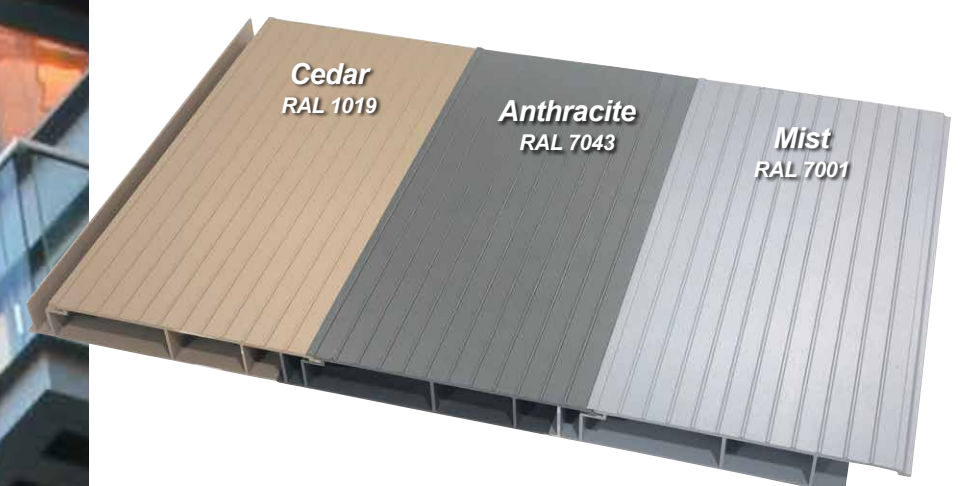
In 2017, Dura Composites was awarded the Queen's Award for Enterprise in recognition of our achievements at the forefront of composite material technology.

Dura Composites' products are also available through a well-established global distribution network. Your local distributor can be found on our website.

Aluminium Decking for Balconies and Terraces

Dura Deck Aluminium

Dura Deck Aluminium gives developers and contractors the ultimate peace of mind for new and replacement balcony decking over 18 metres in height and addresses a general need for improved fire safety on balconies, terraces and public buildings.



A2 Fire Rating for Peace of Mind

Strong and tough, Dura Deck Aluminium is made from high grade T6 aluminium and is ideal for any application that requires an A2 Fire Rating in accordance with BS EN13501, such as residential and mixed-use developments, schools, universities, hospitals & libraries.

Unique Design Prevents Water Egress

The patent pending innovative tongue-and-groove design of Dura Deck Aluminium features a double skin with an attractive grooved surface and a uniform underside to prevent water egress below the deck.

Integrated Soffit & Drainage

With a 150mm visible face, the deck board offers an integrated gutter system, channelling water away from your structure to create a beautiful,

low maintenance deck and a usable, dry space below, whilst simultaneously creating an attractive integrated soffit detail.

Ultimate Safety in Design

The beautiful plank-look surface features the latest technology and can be installed rapidly as no clips are required. The boards are available in 3 modern colours and span up to 1m (based on stringent 2019 2kN load criteria according to BS 6399-1:1996).

Cool Underfoot & Anti-Slip

The lightweight 27mm profile means it is ideal for new builds as well as refurbishments where the fire ratings of existing 28mm timber decking are insufficient. The unique surface keeps cool in hot weather and has low slip potential in all directions.

For details and technical information please call +44 (0)1255 443110.

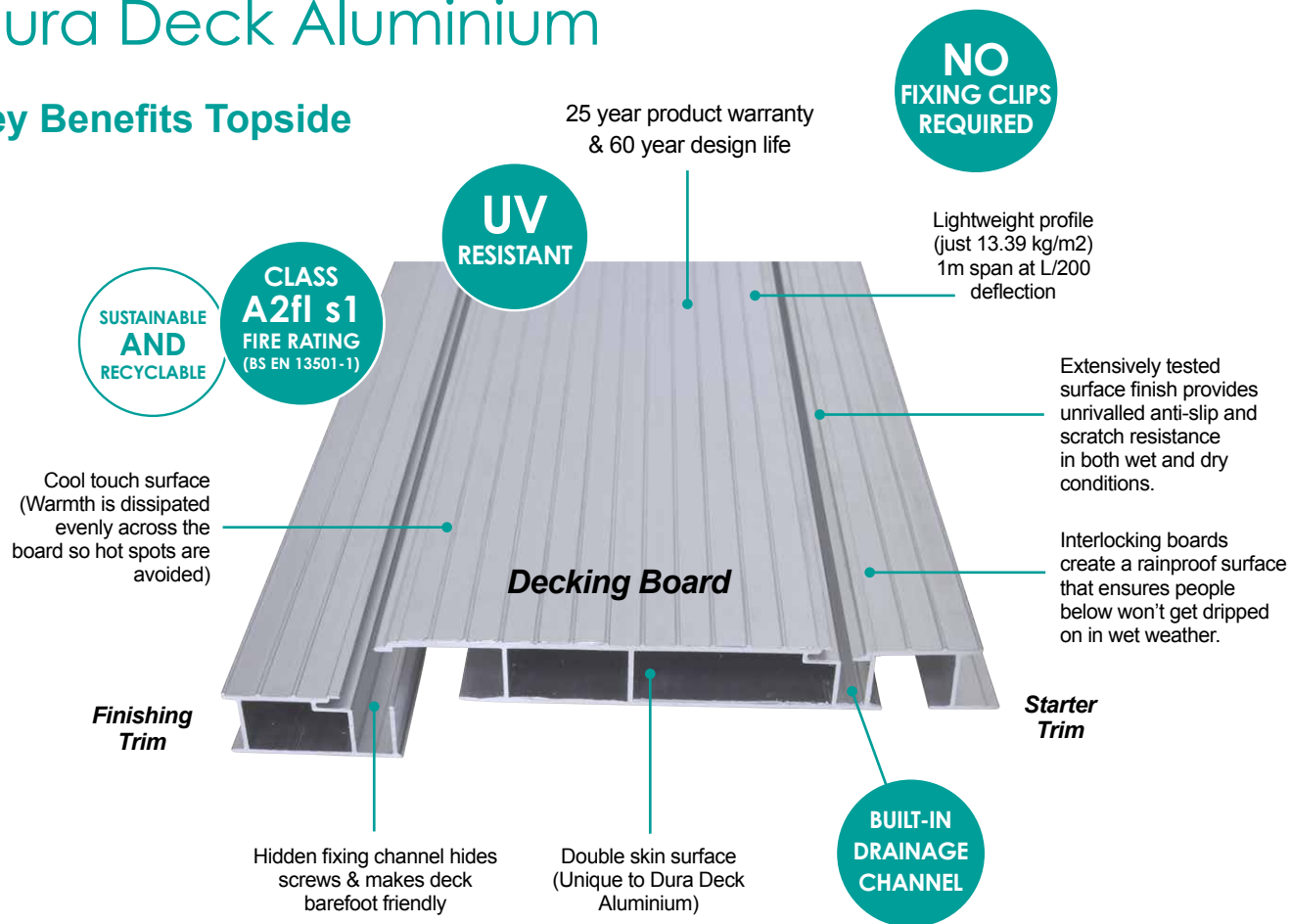
Please Note: All colour swatches and textures shown in this document are intended as a representation only and should not be considered as an exact colour match. We would always recommend ordering a colour sample so you can assess colour suitability before placing your order. Dura Composites' manufacturing process results in a high level of colour consistency although some variation in colour may be apparent across products from different production batches.

Aluminium Decking in Anthracite

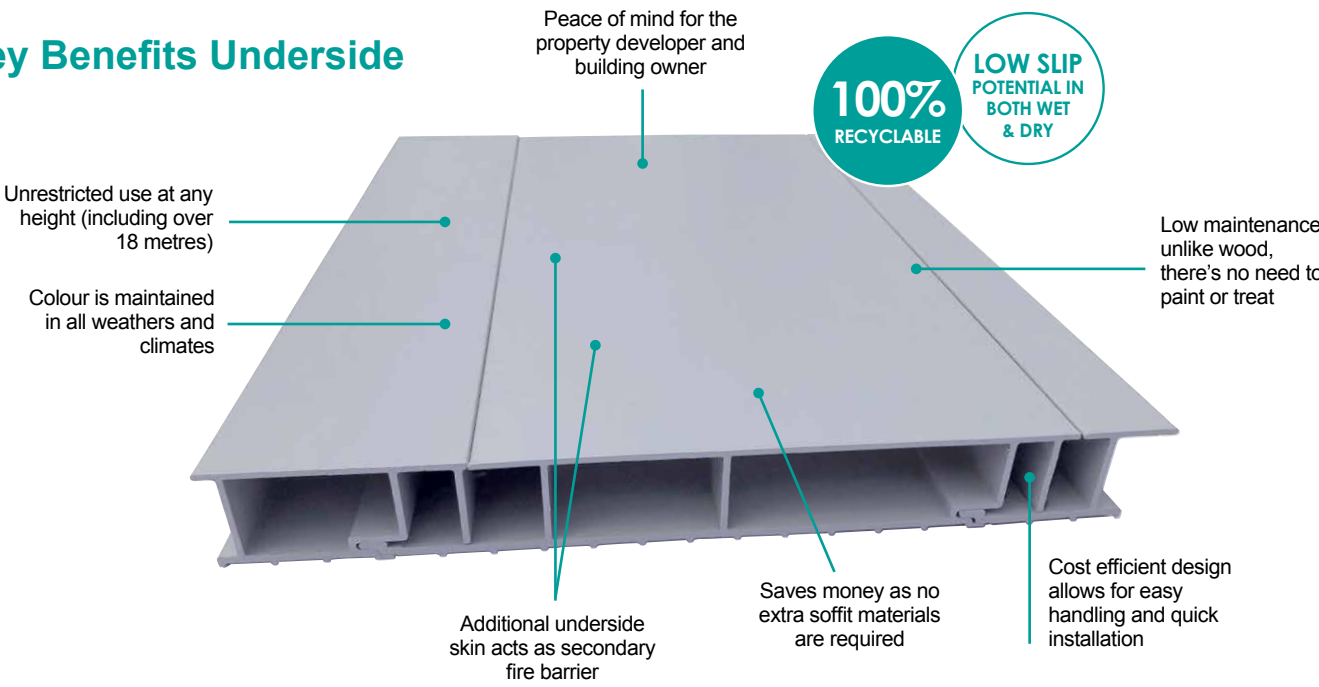
Aluminium Decking

Dura Deck Aluminium

Key Benefits Topside



Key Benefits Underside



Warranty

The Dura Deck Aluminium range has a powder coated finish and comes with a 25 year warranty. Please refer to our supporting Technical Manual for full warranty conditions. You can activate your warranty within 30 days of purchase at www.duracomposites.com/warranty.



Built-In A2 Fire Rated Soffit

Improved underside appearance keeps areas below dry

Soffits are an important visual aspect of a building's design, and as such, additional materials such as a metal or PVC sheets are usually required to form the soffit of a balcony.

In recent times, free draining balconies (with gaps between the structure where water drains freely below), have become more common, with the aim of saving money on materials and labour. The downside of this means that water and debris can fall to the balcony beneath and privacy can be lost. However, today's construction professionals can now choose Dura Deck Aluminium which features an innovative built-in soffit which avoids any rainfall or liquid passing through the decking onto residents or other balcony users below, keeping them dry and comfortable - and which saves valuable time and money with no need to install additional soffit materials.



Optional Soffit Cloaking

Dura Deck Aluminium is so versatile it even gives the option for soffit cloaking

Balconies with exposed structural elements and framework can have a tendency to look industrial in certain scenarios. Dura Deck Aluminium incorporates a built-in soffit that provides improved visual appeal and helps prevent water egress to the balcony below. If you're looking for a fully cloaked system, with

no exposed framework visible, then Dura Cladding Aluminium planks can be used very effectively to cover the underside of the balcony framework. Dura Cladding Aluminium soffit planks are 172mm wide with a 150mm face once interlocked, and create a smart uniform finish with a Class A2 fire rating.



Exposed Framework



Soffit (Dura Cladding Aluminium)

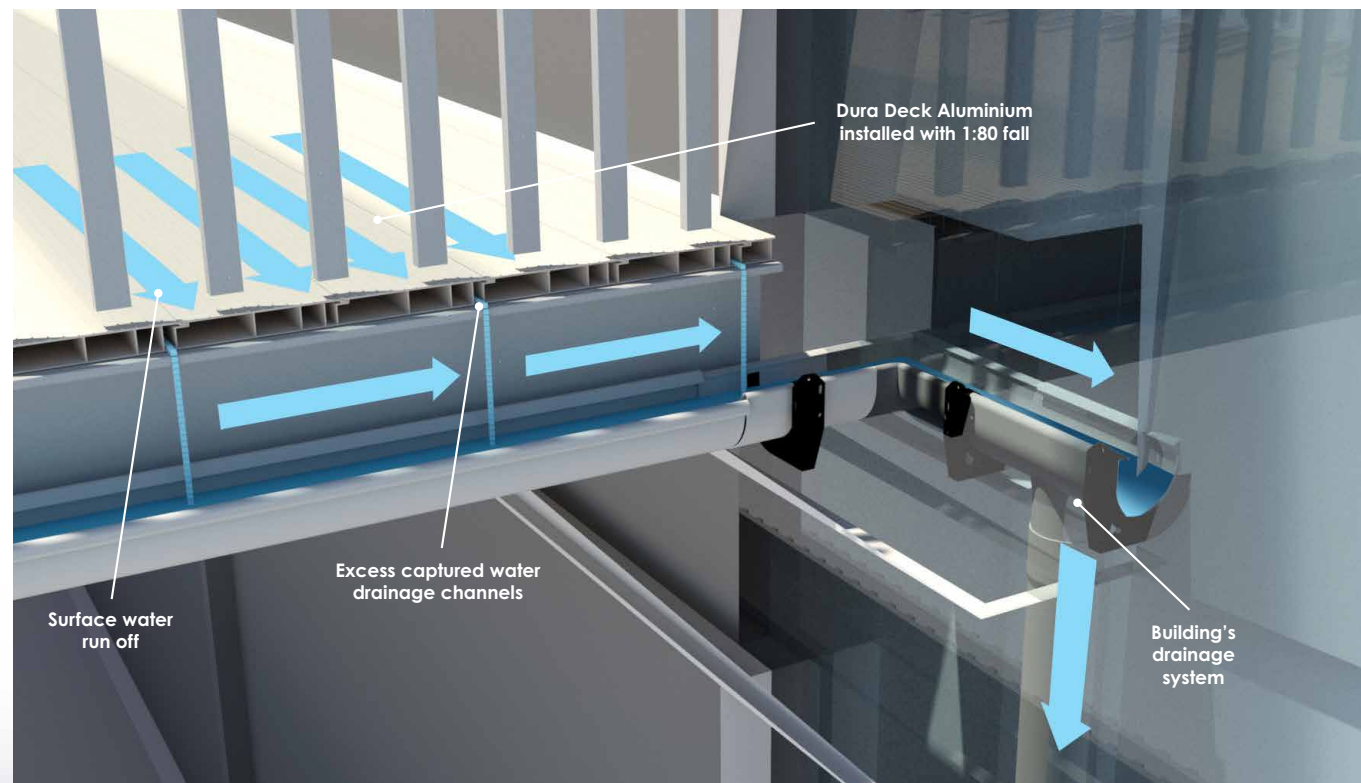


Integral Water Management

NHBC guidance states that drainage is required on balconies where areas are 6m² or over, but that consideration should also be given to providing drainage to areas that are less than 6m² when considering factors such as exposure, where the water will end up, and potential adverse effects on the building or surrounding area.

Dura Deck Aluminium boards feature a grooved surface which aids water runoff as well as an integrated drainage channel which directs any excess water captured into the building's rainwater collection system, preventing it from dripping onto balcony users or residents below.

For further guidance and advice on installation, please contact your Dura Composites representative on **+44 1255 443110**.



Guaranteed Long Term Performance

It's important to choose a decking material that has undergone stringent testing to guarantee its effectiveness and performance under both point load and crowd loading in accordance with relevant building codes.

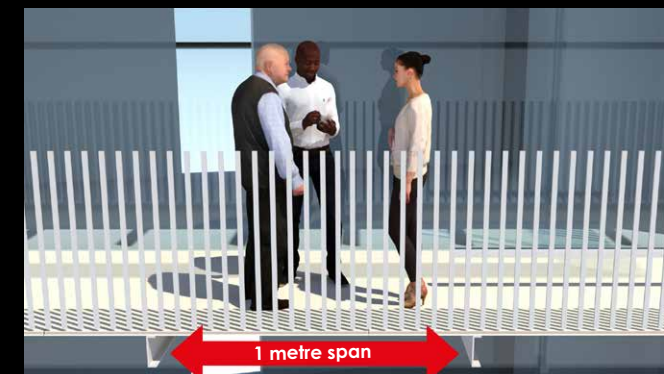
To ensure complete confidence in the long term structural performance of Dura Deck Aluminium, especially when used at significant height, live load tests have been carried out using a specialist Flexural Load Testing machine. This test demonstrates

Dura Deck Aluminium meets the most recent requirements of a 2.0kN point load @ 0.5% deflection (L/200) based on BS 6399-1:1996, rather than the recently obsolete 1.4kN point load.

Dura Composites has taken a precaution using a deflection factor of 0.5% of the span, where others use 1%. This means that Dura Deck Aluminium allows for a 5mm deflection over a 1000mm span, whereas other suppliers may allow for a dangerous 10mm deflection.

For further advice from Dura Composites' Structural Engineering team please contact your sales representative.

2 kN Point Load



5 kN Uniformly Distributed Load (UDL)



Balcony decking loads (Point Load and Uniformly Distributed Load) are represented by multiple adults of average weight. A Point Load of 2 kN can be represented with 3 adults, whereas a Universally Distributed Load of 5 kN/m² is approximately 6 adults/m².

Load and Deflection Data (Based on Live Load Tests)

Point Load Deflection (kN) at 0.5% (L/200)	Span (mm)																		
	500mm	550mm	600mm	650mm	700mm	750mm	800mm	850mm	900mm	950mm	1000mm	1050mm	1100mm	1150mm	1200mm	1250mm	1300mm	1350mm	1400mm
1.40	1.0	1.0	1.0	1.1	1.3	1.4	1.7	1.9	2.2	2.6	2.9	3.3	3.7	4.2	4.6	5.1	5.5	6.0	6.5*
2.00	1.2	1.3	1.5	1.7	1.9	2.2	2.5	2.9	3.3	3.7	4.2**	4.7	5.2	5.8	6.3	7.0	7.6	8.3	8.9

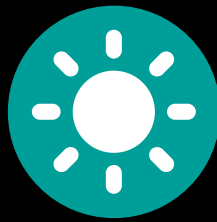
UDL Deflection (kN/m ²) at 0.5% (L/200)	Span (mm)																		
	500mm	550mm	600mm	650mm	700mm	750mm	800mm	850mm	900mm	950mm	1000mm	1050mm	1100mm	1150mm	1200mm	1250mm	1300mm	1350mm	1400mm
5.0	2.5	2.7	3.0	3.2	3.5	3.7	4.0	4.2	4.5	4.7	5.0	5.2	5.5	5.7	6.0	6.2	6.5	6.7	7.0

Based upon live load testing of stock (3 interconnected boards), using a Point Load (PL) square measuring 200x200mm, simply supported

*Maximum Span for 1.4kN Point Load for L/200 limit

**Maximum Span for 2.0kN Point Load for L/200 limit

KEY: ● Deflects less than 0.5% ● Deflects more than 0.5%



Cooler Under Foot by 13.8°C

Dura Deck Aluminium's high thermal conductivity dissipates heat, providing a cooler deck surface than most wood or composite surfaces.

In live tests conducted on the hottest day of the year (summer 2019) and in direct sunlight, Dura Deck Aluminium performed on average 18% better than the latest composite decks and was cooler underfoot by up to 13.8°C versus composite timber decking in a comparable colour.

Dura Deck Aluminium features a unique surface powder coating that is specifically formulated and designed to make barefoot use a pleasure.



Decking Colour	Dura Deck Aluminium	Composite Decking	Percentage Difference
Anthracite	52.5°C	66.3°C	-20.8%
Cedar	50.5°C	61.5°C	-17.9%
Mist	48.2°C	57.5°C	-16.2%

Aluminum vs. Composite Decking Temperature Comparison @ 31°C placed in direct sunlight



Dura Deck Aluminium, Cedar



Proven Best-in-Class Slip Resistance

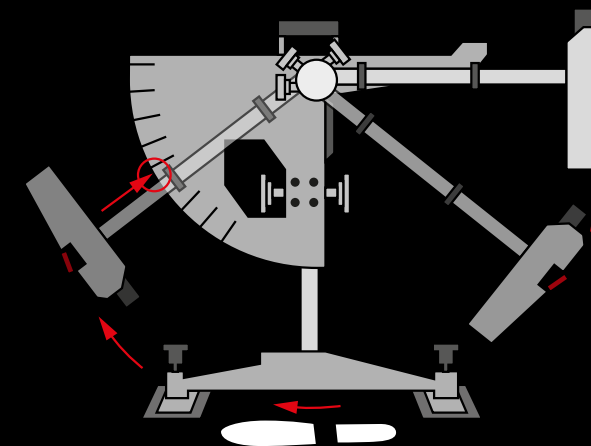
4S Slider Slip-Resistance Testing Explained

The 4S rubber slider test imitates the heel of a shoe or foot to determine the level of slip resistance. The 4S slider test method is specially designed to replicate everyday footwear across a surface. The four S's stands for:

4S = STANDARD SHOE SOLE SIMULATOR

Some test methods are more valuable and trustworthy indicators of slip resistance than others. Health & Safety Executive guidance has determined the most reliable test method is the 4S Pendulum Test which is regarded as the only floor test equipment able to repeatedly provide consistent results which can be used in a court of law in the event of a slip injury claim.

Unlike some other brands, Dura Deck Aluminium has been tested to this 4S Slider Pendulum Testing method and has achieved a lowest score of 54 (low slip potential) in the wet. Some competitors fail to meet the official low slip potential threshold score of 36, and therefore choose to present anti-slip testing results achieved from a different Pendulum Test method traditionally used for road surfaces known as the 55 Slider which uses a softer and more malleable slider designed to replicate the tyre of a car.



Anti-Slip Test Results Dura Deck Aluminium

Sample	Direction	Condition	PTV
Anthracite	Principal	Dry	63
	30 Degrees	Dry	64
	45 Degrees	Dry	65
	Principal	Wet	58
	30 Degrees	Wet	62
	45 Degrees	Wet	61

Sample	Direction	Condition	PTV
Mist	Principal	Dry	60
	30 Degrees	Dry	60
	45 Degrees	Dry	61
	Principal	Wet	56
	30 Degrees	Wet	56
	45 Degrees	Wet	55

Sample	Direction	Condition	PTV
Cedar	Principal	Dry	58
	30 Degrees	Dry	61
	45 Degrees	Dry	58
	Principal	Wet	54
	30 Degrees	Wet	54
	45 Degrees	Wet	56

*(4S Rubber Slider) Pendulum Test Values (PTVs)

- Low Slip Potential (36+ PTV)
- Moderate Slip Potential (25-35 PTV)
- High Slip Potential (0-24 PTV)

ALL 3 COLOURS INDIVIDUALLY TESTED IN WET AND DRY CONDITIONS

TEST CERTIFICATES AVAILABLE ON OUR WEBSITE



Proven A2 Fire Performance

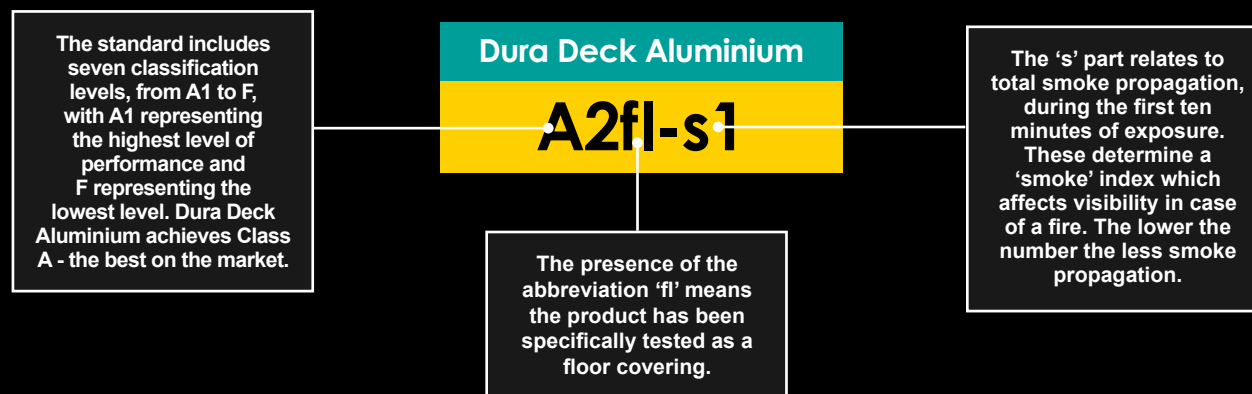
Dura Deck Aluminium is rated to a Class A fire rating and is tested in accordance with genuine install methodology, achieving superior fire resistance compared to many other decking options on the market.

British Standards and European codes use different grading systems to class fire performance of materials, resulting in confusion for the industry. Dura Deck Aluminium is designed to cut through the noise. Some competitors may claim to reach Class A but only when tested specifically with certain fire rated barriers. Others choose to present their testing results based on the general properties of aluminium rather than testing specific products and paint finishes in the correct test conditions and for decking applications (flooring).

By contrast Dura Deck Aluminium features a fire tested powder coat, increasing its defensive properties against fire. Customers can have confidence that Dura Deck Aluminium has been certified and tested by a UKAS accredited body, satisfying current fire legislation; with testing carried out in an environment to replicate that of an actual flooring installation, AND without the need for additional fireproof barriers.

ALL 3
COLOURS
INDIVIDUALLY
FIRE TESTED

Understanding European Classification (BS EN 13501):



British & European Fire Standard Comparison for Flooring (Decking)

Example Material	British Class BS 476	European Class BS EN 13501-1	Description
Dura Deck Aluminium	Non-combustible	A1 fl or A2 fl	Non-Combustible
Dura Deck Resist	Class 0	B fl -s1	Very Limited Contribution to Fire
Dura Deck Eco	Class 1	C fl -s1	Ltd Contribution to Fire
Tropical Timber	Class 2	D fl -s1	Medium Contribution to Fire
Softwood	Class 3	E	High Contribution to Fire
Plastic/Cardboard/Paper	Class 4	F	Highly Flammable

The classification system defined in BS EN 13501-1 is quickly becoming the primary recognised standard in the construction industry. The process for classification under this standard involves a combination of up to five rigorous tests designed to assess the product on a range of characteristics, including combustibility, heat levels, flame spread and smoke release. Once tested, the product receives an official classification of its fire rating, known as a Euroclass rating. Occasionally, a material used by the Construction industry may focus on a Class 0 or Class 1 rating. However, these classifications do not indicate combustibility of the product, referring only to limited surface fire performance characteristics. It is important to recognise the limited application of these classifications and to focus on the specified standard requirement for your project which is likely BS EN 13501.



Technical Specifications

BUILDING/PROJECT SUITABILITY

- All Public & Private Buildings requiring A2 Fire Rated Decking
- Recessed Galvanised Steel Balconies
- Projected Galvanised Steel Balconies
- Recessed Concrete Balconies
- Roof Top Terraces
- Pub & Hotel Deck Areas
- Smoking Areas, Terraces
- Commercial Walkways

MATERIAL

6063 – T6 Grade Aluminium

WARRANTY

25 Years - with 60 Years Expected Service Life

DIMENSIONS

	Deck Board	Starter Trim	Finishing Trim	Closure Trim
Length	3660 mm	3660 mm	3660mm	3660mm
Width	178 mm	61mm	53mm	10mm
Visible Width	150 mm	40mm	37mm	n/a
Thickness	27 mm	27mm	27mm	27mm
Weight	2.00kg/m	0.84kg/m	0.47kg/m	0.26kg/m

MAXIMUM SPAN

- **1.0m span** based on the more stringent 2.0kN point load @ 0.5% deflection (L/200) required by current building regulations

OR

- **1.3m span** based on previously valid 1.4kN point load @ 0.5% deflection (L/200) (now obsolete)

FINISH

- 3 Attractive Matt Finish Colours
- Anti-Slip Powder Coating

FIXING METHOD

Hidden Bi-Metallic Pan Head Self Drilling Screws

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www.duracomposites.com/composite-decking/aluminium-decking/

Unlocking the Power of Composites » for High-Rise Balconies and Terraces

Due to our policy of continual improvement we reserve the right to change specifications at all times without prior notice.

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