

# MasterBrace Anchor

Carbon fibre anchors for structural strengthening, connection, and anchoring of MasterBrace Fabric and Laminate systems

## Material Description

**MasterBrace Anchor** is an advanced carbon fiber anchoring system which is used as near surface mounted strengthening and as fibre connection and the anchorage of MasterBrace Fabric, Laminate and Bar systems. It offers a reliable and efficient solution for structural reinforcement and designed to enhance the structural integrity of concrete and masonry elements. Its unique composition of both an anchored and dry fiber part provides greater flexibility and performance than solutions available on the market. With superior load-bearing capabilities and excellent durability, it offers a reliable solution for reinforcing a variety of structures. This innovative anchoring system is a result of cutting-edge engineering, ensuring unparalleled performance, optimal structural integrity and stability for any building or infrastructure in comparison to other solutions.

## Areas of Application

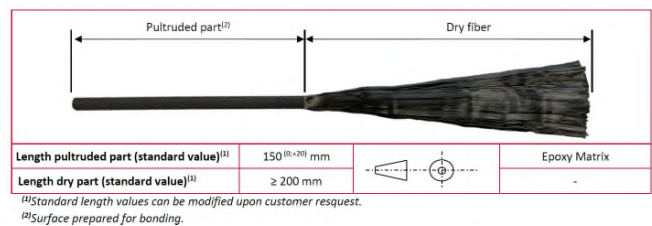
- Shear reinforcement in conjunction with fabrics (forces can be transferred through the slab or walls and sides of beams),
- Flexural reinforcement in conjunction with prefabricated laminates (forces can be transferred through the walls).

## Characteristics and Benefits

- High-Tensile Carbon Fiber- effectively resist tensile and shear forces, to enhanced load-bearing capacity and structural stability.
- Advanced Resin Matrix- robust bond between the carbon fibers and the substrate for durability and longevity, even in challenging environmental conditions.
- Versatile Applications- including but not limited to beams, columns, walls, and slabs for both retrofitting and new construction projects.
- Ease of Installation- minimizes downtime and ensures efficient project execution, resulting in cost savings and reduced labor requirements.

- Competitor Differentiation- due to its optimized fiber configuration and resin formulation. These features synergize to provide exceptional performance in various load-bearing scenarios
- Certifications and Approvals- Complies with industry standards for structural strengthening

## Properties



Grades	MasterBrace Anchor 8 CA MasterBrace Anchor 9.5 CA	
Performance Properties	Dry Part	Pultruded part
Tensile Strength MPa	4500	2500
Tensile Modulus GPa	240	150
Ultimate elongation (strain) %	1.7	1.6
Ø of the composite mm		8 and 9.5
Fibre Section mm <sup>2</sup>	32 (Ø 8) 45 (Ø 9.5)	50.3 (Ø 8) 70.9 (Ø 9.5)
Fibre Density g/cm <sup>3</sup>	1.8	1.6
Volume Fiber %		68

*Tensile test based on the EN2561 Standard recommendations.*

## Application

For detailed instructions, refer to the "[Application Guide for MasterBrace FRP Strengthening Systems](#)" document.

The system build-up and configuration as described:

Concrete substrate adhesive primer: [MasterBrace P3500](#) @6m<sup>2</sup>/L whilst still tacky;

For the dry fibre ends: apply Saturating anchoring resin [MasterBrace 4500](#) @ 150g/m



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The pultruded rod end of the MasterBrace Anchor needs to be installed as per the MasterBrace MBar application details. MasterBrace Anchor systems shall only be applied by trained and experienced professionals.

Composite anchors to be used in conjunction with composite structure reinforcement through bonding in order to transfer forces when the bonding surface is not sufficient.

## Packaging

Available in pieces, typically 200 pieces in one box. (Approx 16kg in total).

## Storage

MasterBrace Anchors have a shelf life of 36 months. Store out of direct sunlight, clear of the ground on pallets protected from rainfall.

## Specification Clause

Unidirectional carbon composite anchor which is composed of two elements: an “anchored” part and a “dry fiber” part. The composite anchor to be made from the same materials as composite reinforcements such as fabrics, laminates and bars, therefore to have the same technical characteristics (tensile strength, CTE, anti-corrosion, etc.).

## Watchpoints - Design & Installation

Design and detailed specification should be carried out by appropriately qualified and competent person(s). Professional consulting engineers and designers may make use of a special design programme for the MasterBrace system. Please contact your local Master Builders Solutions office for further details. Installation should only be carried out by trained and experienced specialist contractors. Site quality control (including tensile bond testing), should be the responsibility of an independent organisation appointed by the client or his representatives. Surfaces exposed to U.V. rays should be protected within two days (maximum seven days) with a selected product from the MasterProtect range (eg [MasterProtect 160](#)), in order to ensure perfect bonding between the protective layer and CFRP.

## Disclaimer

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### STATEMENT OF RESPONSIBILITY

The technical information and application advice given in this MB Solutions Australia Pty Ltd publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use and for ensuring that the application and use of the product is in accordance with the manufacturer's guidelines and recommendations.

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