

DMTMBEAM

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OVERVIEW

Welcome to the **DMBEAM™** product guide. This catalog highlights the extensive range of **FRP Pultruded Profiles** meticulously manufactured by DM Composites™, a trusted supplier in the industry. Our profiles are crafted in **various shapes**, sizes, colors, and resin systems, catering to diverse applications across multiple industries. This guide aims to offer you a comprehensive insight into our **DMBEAM™** products, covering their features, properties, and **versatile applications**.



DMBEAM™ FRP Pultruded Profiles undergo a meticulous **pultrusion process**, blending resin, fiberglass reinforcement, and other additives to create an exceptionally durable and versatile material. Renowned for their **lightweight design**, high-strength properties, and **resistance to corrosion**, chemicals, and weathering, our profiles stand out in terms of performance and reliability.

With a spectrum of **available colors** and resin systems, **DMBEAM™** ensures flexibility to meet the specific requirements of your applications. Explore the possibilities and discover how **DMBEAM™** FRP Pultruded Profiles can elevate your projects with superior quality and durability.



LIGHT-WEIGHT



ELECTRICAL
INSULATION



THERMAL
INSULATION



MAINTENANCE
FREE

DMBEAMTM



SUSTAINABLE



CHEMICAL
RESISTANT



STRONG



CORROSION
- FREE

TECHNICAL INFO

RESIN TYPE

ISOPHTHALIC - THE COST-EFFECTIVE OPTION

**Versatility:**

ISO resin is widely used due to its versatility and compatibility with various applications.

**Corrosion Resistance:**

It offers good resistance against corrosion, making it suitable for applications in harsh environments.

**General-Purpose:**

ISO resin is a popular choice for general-purpose applications where moderate strength and chemical resistance are required.

VINYL ESTER - THE CHEMICAL PROOF OPTION

**Enhanced Chemical Resistance:**

Vinyl ester resin exhibits superior chemical resistance compared to ISO resin, making it suitable for more corrosive environments.

**High-Strength:**

It provides high-strength properties, contributing to its use in applications where structural integrity is critical.

**Adhesion:**

Vinyl ester resin has excellent adhesion properties, making it a preferred choice for applications requiring strong bonds.

PHENOLIC

**High Temperature Resistance:**

Phenolic resin excels in high-temperature environments, maintaining its structural integrity under elevated temperatures.

**Flame Resistance:**

It possesses inherent flame resistance, making it suitable for applications where fire safety is a priority.

**Dimensional Stability:**

Phenolic resin offers excellent dimensional stability, ensuring the structural consistency of the composite material over time.

Mechanical Property	Minimum Requirement	AST Test Method
Longitudinal Tensile Strength	207 MPa	D638
Transverse Tensile Strength	48 MPa	D638
Longitudinal Tensile Modulus	21000 MPa	D638
Transverse Tensile Modulus	5516 MPa	D638
Longitudinal Compressive Strength	207 MPa	D6641
Longitudinal Compressive Modulus	20685 MPa	D6641
Transverse Compressive Modulus	6895 MPa	D6641
In-Plane Shear Strength	56 MPa	D5379
In-Plane Shear Modulus	2758 MPa	D5379
Interlaminar Shear Strength	24 MPa	D2344
Longitudinal Pin-Bearing Strength	145 MPa	D953a
Transverse Pin-Bearing Strength	124 MPa	D953a
Pull-Through Strength per Fastener		D7332/ Proc.B
t = 10 mm	2.9 kN	
t = 13 mm	4 kN	
t = 19 mm	5.6 kN	

Physical Property	Requirement	ASTM Test Method
Barcol Hardness	Greater than 40	D638
Glass Transition Temperature	Greater than 82°C	D638
Coefficient of Thermal Expansion	Less than 7.5×10^{-6}	D638
Transverse Tensile Modulus	in/in°F (longitudinal) 5516 MPa	D638

Beyond their exceptional physical and mechanical properties, **DMBEAM™** from DM Composites™ boast an additional layer of resilience tailored for the harsh conditions of Australia and New Zealand. These beams exhibit **remarkable resistance to Ultra-Violet Rays(UV)** exposure, ensuring their durability and performance even in the intense sunlight characteristic of these regions.

The UV exposure has been meticulously taken into account during the manufacturing process, with a guarantee that it has no adverse impact on the overall structural integrity of **DMBEAM™**. This UV resistance positions **DMBEAM™** as an ideal choice for outdoor applications where prolonged sun exposure is a significant consideration. Moreover, each **DMBEAM™** comes with a **guaranteed design life of 100 years**, emphasizing the long-lasting quality and reliability that defines our composite beams in diverse structural applications.

CHEMICAL TYPE	CONCENTRATION (%)	ISOPHTHALIC	VINYL ESTER
Acetic Acid	10%	C	C
Acetic Acid	25%	C	C
Acetic Acid	50%	S	C
Acetone	25%	NR	NR
Acetone	100%	NR	I
Aluminum Chloride		C	C
Aluminum Hydroxide	5%	S	C
Aluminum Sulphate	100%	C	C
Ammonium Chloride		C	C
Ammonium Hydroxide		I	C
Ammonium Sulphate	5%	C	C
Benzene		NR	I
Calcium Bisulphite		C	C
Calcium Hypochlorite		S	C
Calcium Hypochlorite	0%	I	C
Carbon Tetrachloride	20%	I	S
Chlorinated Water (Bleach)		S	C
Chlorine Wet Gas		NR	C
Chloroacetic Acid		NR	I
Chlorobenzene	50%	NR	NR
Chloroform	100%	NR	NR
Chromic Acid	100%	S	C
Chromic Acid	10%	NR	S
Chromic Acid	20%	NR	NR
Citric Acid	30%	C	C
Copper Sulfate	100%	C	C
Crude Petroleum		C	C
Cyclohexane		NR	S
Detergents Sulfonated		S	C
Dichloro Benzene		NR	NR
Ethanol		S	C
Ferric Chloride	100%	C	C
Ferric Sulphate	100%	C	C
Formaldehyde	10%	S	C
Formic Acide	44%	S	C
Fuel (Diesel,Jet,Gasoline)	30%	C	C
Fuel Oil	44%	C	C
Glycerine	100%	C	C
Heptane	100%	S	C
Hexane	100%	S	C
Hydrobromic Acid		S	C
Hydrobromic Acid	50%	S	C
Hydrochloric Acid	25%	S	C
Hydrochloric Acid Concentrated	20%	S	S
Hydrofluoric Acid	37%	NR	NR
Hydrogren Peroxide	30%	NR	C
Kerosene		S	C
Lactic Acid	5%	C	C
Mercuric Chloride		C	C
Methanol		I	C
Methyl ChlorideLiquid or gas		NR	NR
Naphtha	100%	C	C
Nitric Acid	5%	C	C
Nitric Acid	20%	S	S
Nitric Acid	35%	NR	C
Nitric Acid Fumes	100%	NR	NR
Ozone (Sewage Treatment)		C	C
Phosphoric Acid	100%	C	C
Phosphoric Acid	75%	C	C
Sea Water		C	C
Sodium ChlorideSaturated		C	C
Sodium Hydroxide	25%	I	C
Sodium Hydroxide	50%	I	C
Sodium Hypochlorite	10%	S	C
Sulphuric Acid	10%	C	C
Sulphuric Acid	25%	S	C
Sulphuric Acid	50%	I	C
Sulphuric Acid	75%	I	S
Toluene	100%		I
Trisodium Phosphate	50%		C
Urea			C
Water (Fresh,Salt,Deionized)			C
Xylene 30%	100%		NR
Zinc Chlorate	30%		C
Zinc Sulphate			C

CHEMICAL RESISTANCE

C = Continuous Exposure

S = Frequent exposure to splashes and spills

I = Infrequent exposure to splashes and spills

NR = Not recommended

PROFILES

DMBOX™

Designed for use in posts and columns.



SHAPES

DMREC™

Tailored for frames and similar applications



6 |



DMCHAN™

Suitable for guard rails and hand railings.

DMUNI™

Ideal for Joists and other horizontal beam applications.



7 |



DMANGLE™

An Essential Structural Bracing Option

DMFLANGE™

A Universal Column 'Alternative'.



8 |



DMFLAT™

An Essential Packer Option

DMTUBE™

Specifically suited for staircase stringers.



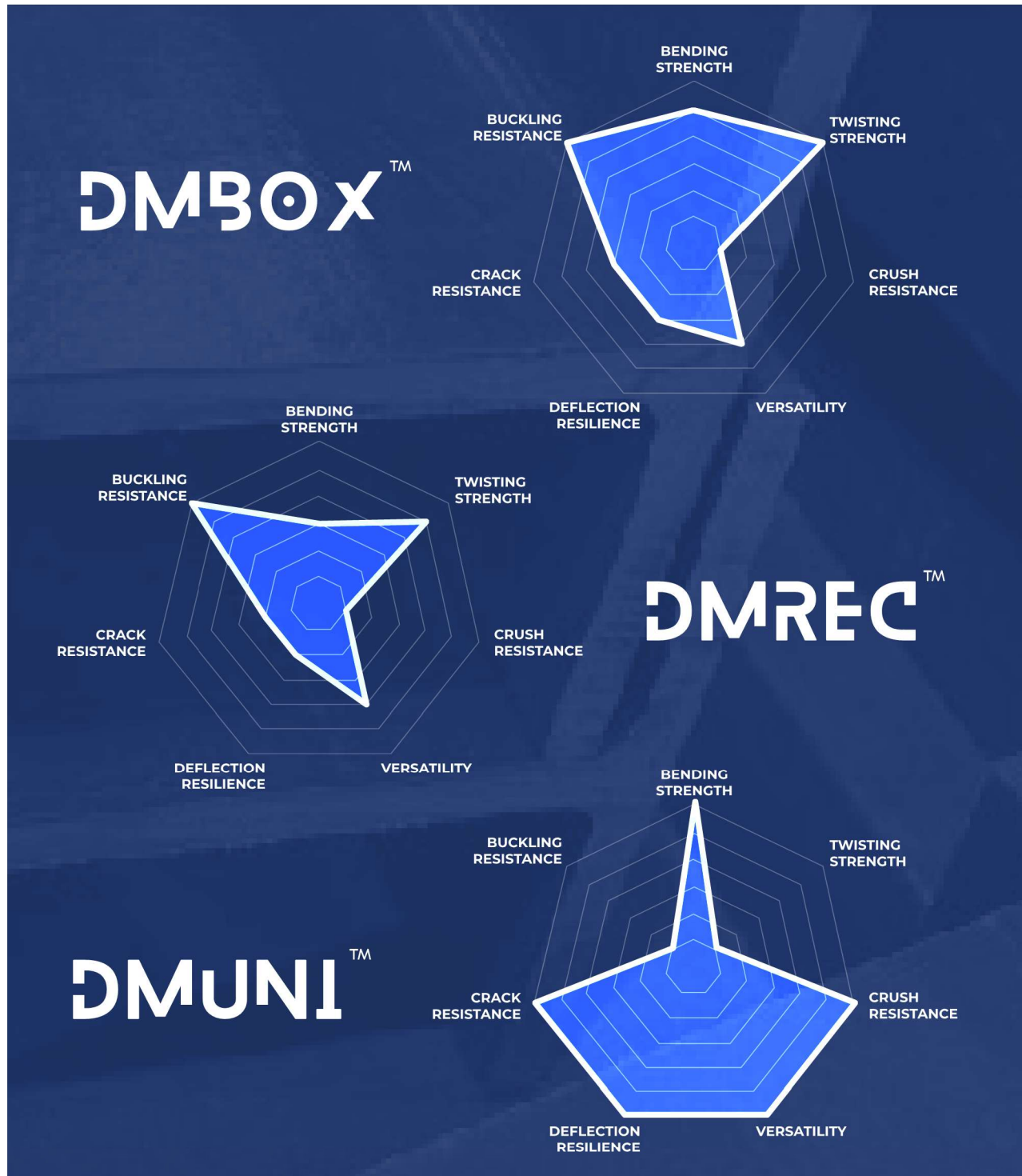
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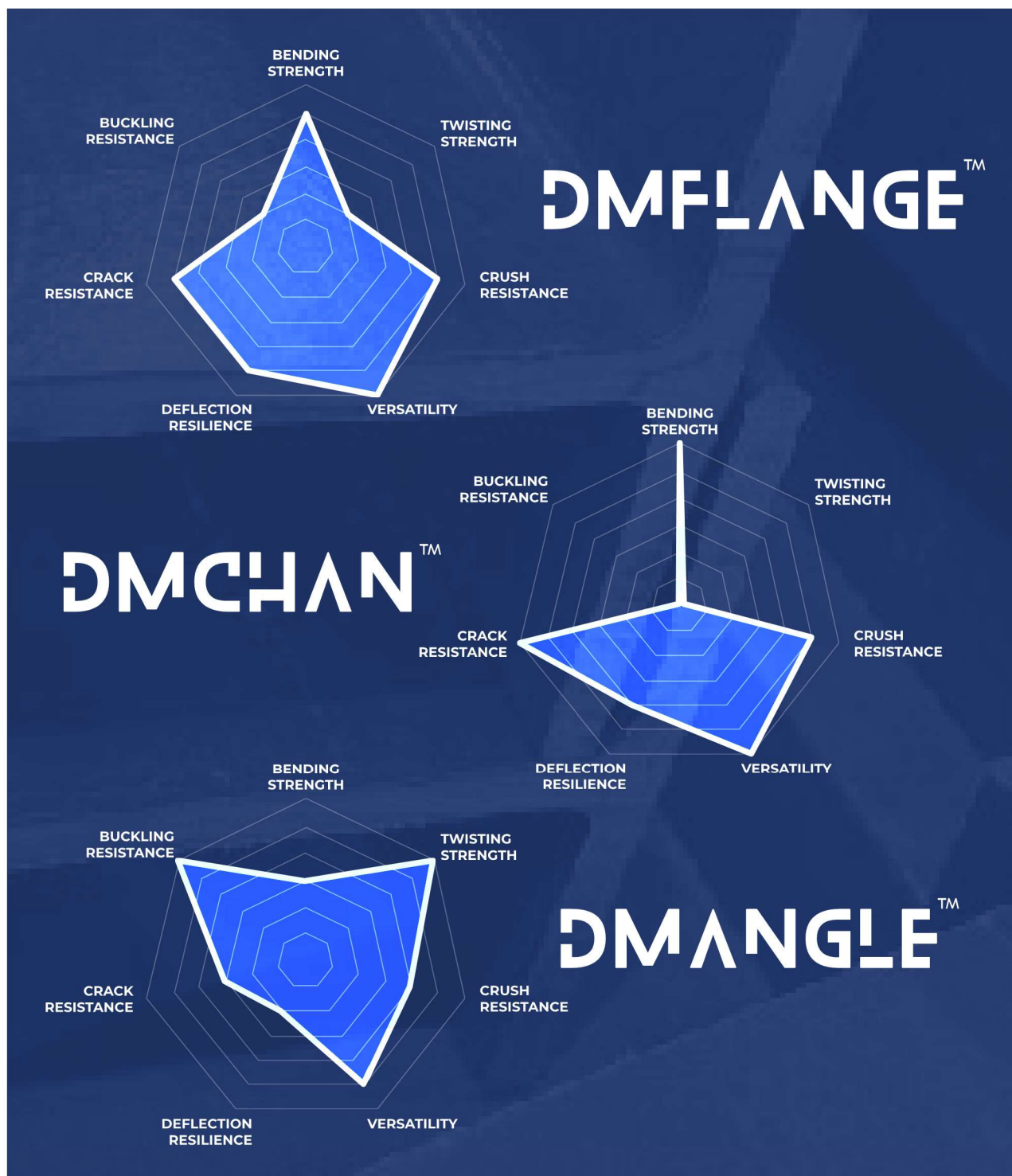
DMSPAN™

Tailored for Pedestrian Bridges

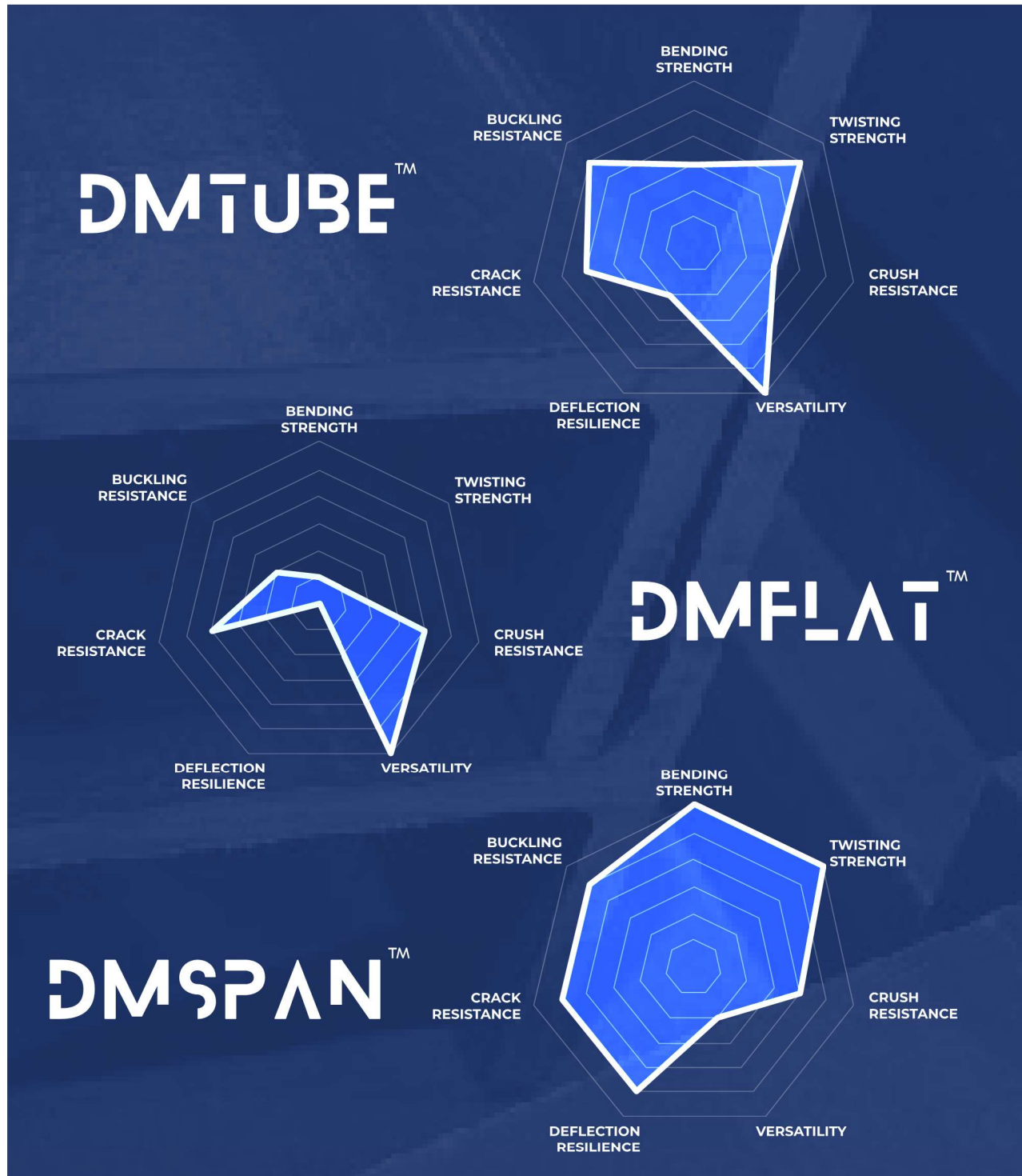
WHICH SHAPE IS FOR YOU?



WHICH SHAPE IS FOR YOU?

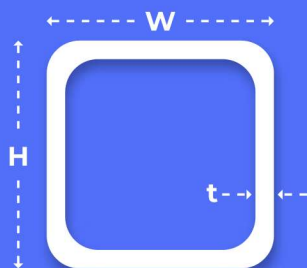


WHICH SHAPE IS FOR YOU?



DMBOX™

DMBOX™ stands as a versatile solution, excelling in applications such as stanchions, joists, FRP posts, and marine piles. Engineered with robust buckling resistance, these square hollow sections guarantee structural integrity in various load-bearing scenarios. However, it's important to note that their strength lies predominantly in buckling resistance, making them exceptionally reliable in roles requiring stability against lateral forces.



In applications with a risk of crushing, anti-crush inserts are recommended during installation to enhance their performance and longevity. **DMSQUARE™** embodies a balance of strength and adaptability, offering a dependable choice for a spectrum of structural needs while ensuring optimal performance through thoughtful installation practices.

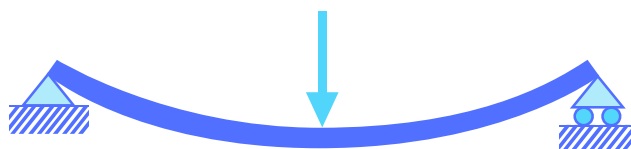
PRODUCT CODE	HEIGHT, H,mm	WIDTH, W,mm	Thickness, t,mm	Area, A,mm ²	Weight, Kg/m	Shear Area (mm ²)	Moment of Inertia (I,mm ⁴)	Section Modulus (S,mm ³)
DMB-SHS-50-6.4	50	50	6.4	2500	5.0	476	361249	14450
DMB-SHS-64-6.4	64	64	6.4	4096	8.1	655	825439	25795
DMB-SHS-76-6.4	76	76	6.4	5776	11.4	809	1450685	38176
DMB-SHS-76-9.5	76	76	9.5	5776	11.4	1083	1900515	50014
DMB-SHS-89-6.4	89	89	6.4	7921	15.7	975	2418958	54359
DMB-SHS-102-6.4	102	102	6.4	10404	20.6	1142	3744591	73423
DMB-SHS-102-8	102	102	8	10404	20.6	1376	4461867	87488
DMB-SHS-127-8	127	127	8	16129	31.9	1776	9028133	142175
DMB-SHS-152-9.5	152	152	9.5	23104	45.7	2527	18407841	242208

DMBOX™



DEFLECTION

DEFLECTION, d,mm	MAX SPAN/L,m, (UDL)		
PRODUCT CODE	2.5 KPA	3 KPA	5 KPA
DMB-SHS-50-6.4	1.1	1.0	0.8
DMB-SHS-64-6.4	1.4	1.3	1.1
DMB-SHS-76-6.4	1.7	1.6	1.3
DMB-SHS-76-9.5	1.8	1.7	1.5
DMB-SHS-89-6.4	2.0	1.9	1.6
DMB-SHS-102-6.4	2.3	2.2	1.8
DMB-SHS-102-8	2.4	2.3	1.9
DMB-SHS-127-8	3.1	2.9	2.4
DMB-SHS-152-9.5	3.9	3.7	3.1



The DM Composite™ Engineering Tables serve as a guide and not a direct engineering replacement. Verification by a qualified engineer is necessary. Deflection tables are based on a span/200 ratio, excluding shear deformation effects.

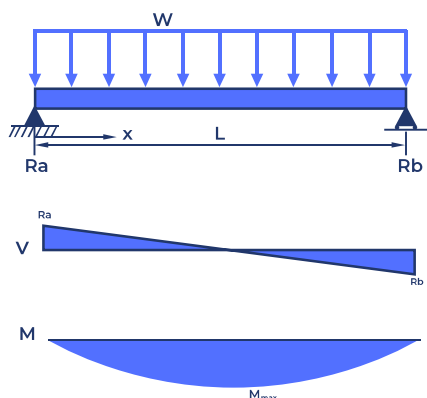
Ultimate Limit State (ULS) bending moment capacity and shear force values adhere to a **Factor of Safety (FOS) of 2.5 per Eurocomp standards**; users are advised to confirm and adjust values as needed for specific project requirements.

DMBOX™

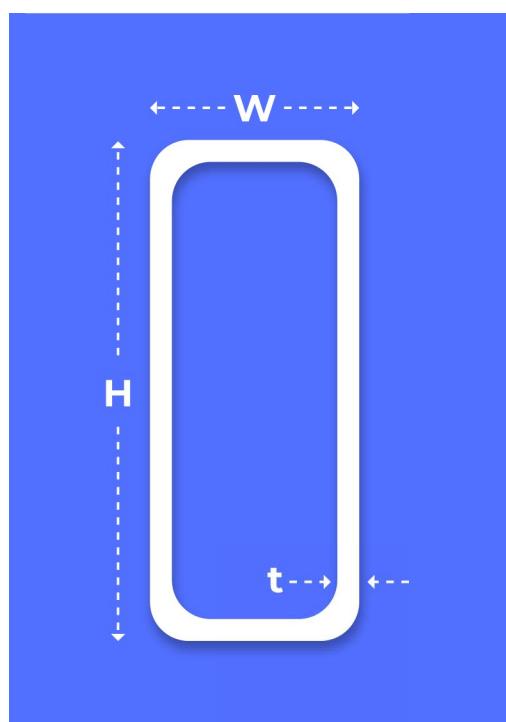
BENDING & SHEAR CAPACITIES

PRODUCT CODE	Max BENDING Moment, M_s /kN.m	MAX SHEAR FORCE, V_s /kN
DMB-SHS-50-6.4	1.2	10.7
DMB-SHS-64-6.4	2.1	14.7
DMB-SHS-76-6.4	3.2	18.1
DMB-SHS-76-9.5	4.1	24.3
DMB-SHS-89-6.4	4.5	21.8
DMB-SHS-102-6.4	6.1	25.6
DMB-SHS-102-8	7.2	30.8
DMB-SHS-127-8	11.8	39.8
DMB-SHS-152-9.5	20.1	56.6

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DMREC™



DMREC™ presents itself as a versatile solution, excelling in applications such as kerb rails, top and mid railings for square handrail, fence posts, and more. Engineered with robust buckling resistance, these rectangular hollow sections ensure structural integrity in various load-bearing scenarios. It's essential to highlight that their strength primarily lies in buckling resistance, making them exceptionally reliable in roles demanding stability against lateral forces.

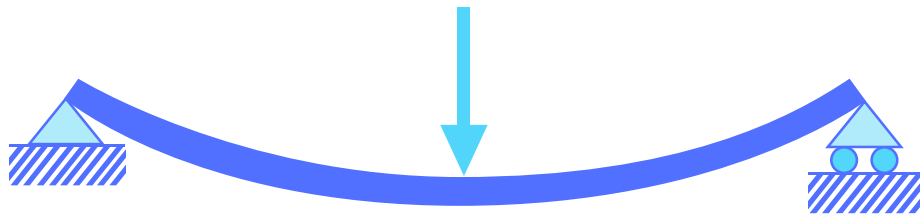
For applications prone to crushing, we recommend the use of anti-crush inserts during installation to enhance their performance and longevity. **DMREC™** embodies a harmonious balance of strength and adaptability, providing a dependable choice for a diverse range of structural needs, while careful installation practices ensure optimal performance.

PRODUCT CODE	HEIGHT, H,mm	WIDTH, W,mm	Thickness, t,mm	Area, A,mm ²	Weight, Kg/m	Shear Area (mm ²)	Moment of Inertia Strong Axis (I _{xx} ,mm ⁴)	Moment of Inertia Weak Axis (I _{yy} ,mm ⁴)	Section Modulus (S,mm ³)
DMB-RHS-102-25-6.4	102	25	3.2	771	1.5	612	856580	78116	16796
DMB-RHS-102-50-5.5	102	50	5.5	1551	3.1	1001	972594	558289	38678
DMB-RHS-102-50-6.4	102	50	6.4	1781	3.5	1142	2221530	624930	43559
DMB-RHS-102-75-6.4	102	75	6.4	2101	4.2	1142	2953771	1540482	57917

DMREC™

DEFLECTION

DEFLECTION, d,mm	MAX SPAN/L,m, (UDL)		
PRODUCT CODE	2.5 KPA	3 KPA	5 KPA
DMB-RHS-102-25-6.4	1.4	1.3	1.1
DMB-RHS-102-50-5.5	1.9	1.7	1.5
DMB-RHS-102-50-6.4	1.9	1.8	1.5
DMB-RHS-102-50-6.4	2.1	2.0	1.7



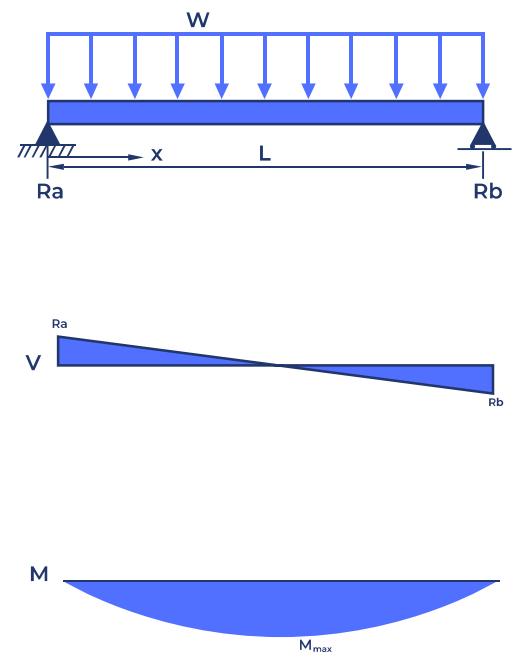
The DM Composite™ Engineering Tables serve as a guide and not a direct engineering replacement. Verification by a qualified engineer is necessary. Deflection tables are based on a span/200 ratio, excluding shear deformation effects. Ultimate Limit State (ULS) bending moment capacity and shear force values adhere to a Factor of Safety (FOS) of 2.5 per Eurocomp standards; users are advised to confirm and adjust values as needed for specific project requirements.

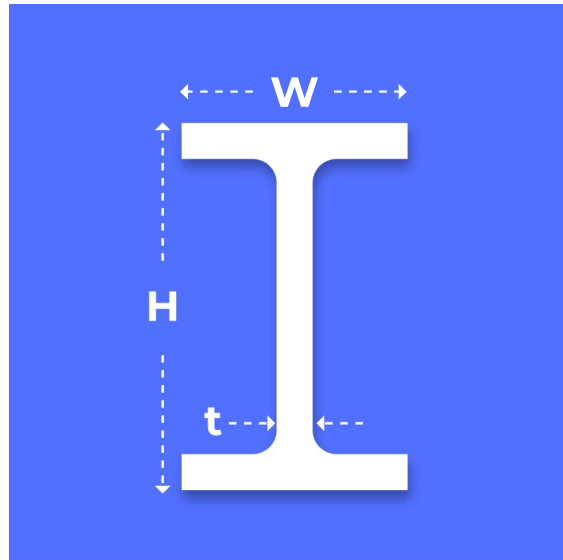
DMRECTM

BENDING & SHEAR CAPACITIES

PRODUCT CODE	Max BENDING Moment, M_s /kN.m	MAX SHEAR FORCE, V_s /kN
DMB-RHS-102-25-6.4	1.4	13.7
DMB-RHS-102-50-5.5	3.2	22.4
DMB-RHS-102-50-6.4	3.6	25.6
DMB-RHS-102-75-6.4	4.8	25.6

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DMUNI™

DMUNI™ stands as a versatile solution, excelling in applications such as joists, columns, beams, fence posts, trench supports, concrete bund supports diagonal bracing and more Engineered with substantial resistance to bending and deflection.

PRODUCT CODE	HEIGHT, H,mm	WIDTH, W,mm	Thickness, t,mm	Area, A,mm ²	Weight, Kg/m	Shear Area (mm ²)	Moment of Inertia Strong Axis (I _{xx} ,mm ⁴)	Moment of Inertia Weak Axis (I _{yy} ,mm ⁴)	Section Modulus (S,mm ³)
DMB-IB-102-50-6.4	102	50	6.4	1210	2.4	571	1843006	135282	36137
DMB-IB-152-76-9.5	152	76	9.5	2707	5.4	1264	9203921	704548	121104
DMB-IB-203-102-9.5	203	102	9.5	3686	7.3	1748	23087036	1693392	227458
DMB-IB-203-102-12.7	203	102	12.7	4846	9.6	2256	29419278	2276540	227458
DMB-IB-254-127-12.7	254	127	12.7	6129	12.1	2903	59642495	4374766	469626
DMB-IB-305-152-12.7	305	152	12.7	7411	14.7	3551	105651003	7481054	692793

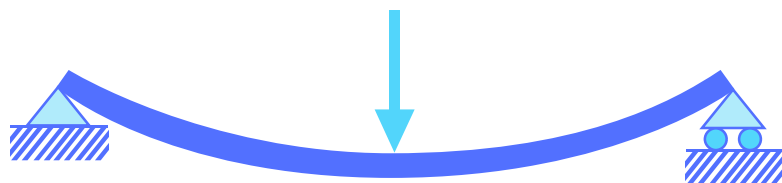
DMUNI™

The DM Composite™ Engineering Tables serve as a guide and not a direct engineering replacement. Verification by a qualified engineer is necessary. Deflection tables are based on a span/200 ratio, excluding shear deformation effects.

DEFLECTION

DEFLECTION, d,mm	MAX SPAN/L,m, (UDL)		
PRODUCT CODE	2.5 KPA	3 KPA	5 KPA
DMB-IB-102-50-6.4	1.8	1.7	1.4
DMB-IB-152-76-9.5	3.1	2.9	2.5
DMB-IB-203-102-9.5	4.2	4.0	3.3
DMB-IB-203-102-12.7	4.6	4.3	3.6
DMB-IB-254-127-12.7	5.8	5.4	4.6
DMB-IB-305-152-12.7	7.0	6.6	5.5

Ultimate Limit State (ULS) bending moment capacity and shear force values adhere to a Factor of Safety (FOS) of 2.5 per Eurocomp standards; users are advised to confirm and adjust values as needed for specific project requirements.

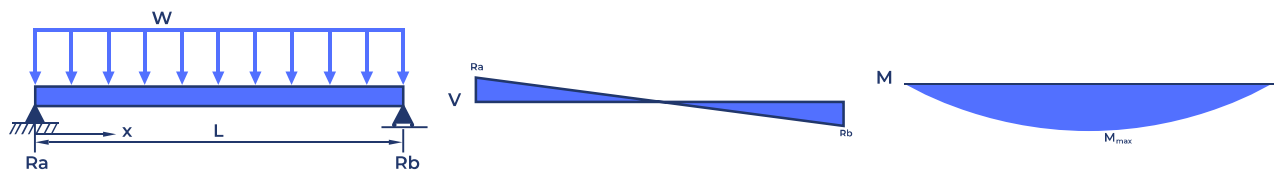


DMUNI™

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BENDING & SHEAR CAPACITIES

PRODUCT CODE	Max BENDING Moment, M_s /KN.m	MAX SHEAR FORCE, V_s /KN
DMB-IB-102-50-6.4	3.0	12.8
DMB-IB-152-76-9.5	10.0	28.3
DMB-IB-203-102-9.5	18.8	39.2
DMB-IB-203-102-12.7	24.0	50.5
DMB-IB-254-127-12.7	38.9	65.0
DMB-IB-305-152-12.7	57.4	79.5



DMFLANGE™



The **DMFLANGE™** stands as a versatile solution, excelling in a range of applications including joists, columns, beams, fence posts, trench supports, concrete bund supports, diagonal bracing, and more. With its wide flange pultruded FRP design, the **DMFLANGE™** offers robust performance and provides additional resistance to buckling and twisting compared to standard I beams. This enhanced design ensures durability without susceptibility to crushing weaknesses found in hollow sections. It's essential to highlight that while the **DMFLANGE™** exhibits excellent resistance to bending and deflection, its wider flanges contribute to superior resistance against buckling and twisting, particularly under lateral loads.

PRODUCT CODE	HEIGHT, H,mm	WIDTH, W,mm	Thickness, t,mm	Area, A,mm ²	Weight, Kg/m	Shear Area (mm ²)	Moment of Inertia Strong Axis(I _{xx} ,mm ⁴)	Moment of Inertia Weak Axis(I _{yy} ,mm ⁴)	Section Modulus (S,mm ³)
DMB-HB-76-6.4	76	76	6.4	1377	2.7	404	1316053	469622	34633
DMB-HB-102-6.4	102	102	6.4	1876	3.7	571	3366067	1133904	66001
DMB-HB-152-6.4	152	152	6.4	2836	5.6	891	11756531	3748969	154691
DMB-HB-152-9.5	152	152	9.5	4151	8.2	1264	16545337	5569865	217702
DMB-HB-203-9.5	203	203	9.5	5605	11.1	1748	41064388	13258406	404575
DMB-HB-203-12.7	203	203	12.7	7411	14.7	2256	52679666	17737137	519011
DMB-HB-254-12.7	254	254	12.7	9354	18.5	2903	106641960	34724974	839700
DMB-HB-305-12.7	305	305	12.7	11297	22.4	3551	188711779	60103117	1237454

Users are advised to take this characteristic into consideration and employ suitable measures to address lateral forces for optimal performance across a spectrum of structural applications, as outlined in our product guide.

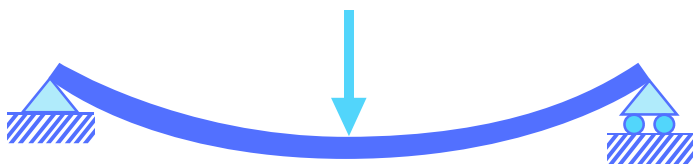
DMFLANGE™

DEFLECTION

DEFLECTION, d,mm	MAX SPAN/L,m, (UDL)		
PRODUCT CODE	2.5 KPA	3 KPA	5 KPA
DMB-HB-76-6.4	1.6	1.5	1.3
DMB-HB-102-6.4	2.2	2.1	1.8
DMB-HB-152-6.4	3.4	3.2	2.7
DMB-HB-152-9.5	3.8	3.5	3.0
DMB-HB-203-9.5	5.1	4.8	4.0
DMB-HB-203-12.7	5.5	5.2	4.4
DMB-HB-254-12.7	7.0	6.6	5.6
DMB-HB-305-12.7	8.5	8.0	5.6

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Ultimate Limit State (ULS) bending moment capacity and shear force values adhere to a Factor of Safety (FOS) of 2.5 per Eurocomp standards; users are advised to confirm and adjust values as needed for specific project requirements.

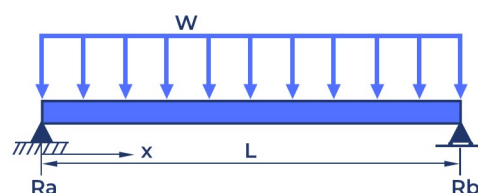


DMFLANGE™

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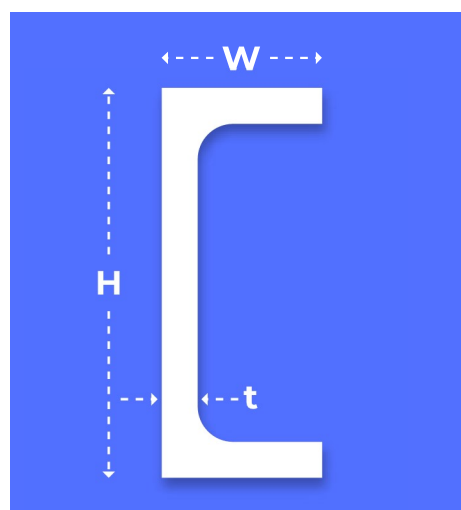
BENDING & SHEAR CAPACITIES

PRODUCT CODE	Max BENDING Moment, M_s /kN.m	MAX SHEAR FORCE, V_s /kN
DMB-HB-76-6.4	2.9	9.1
DMB-HB-102-6.4	5.5	12.8
DMB-HB-152-6.4	12.8	20.0
DMB-HB-152-9.5	18.0	28.3
DMB-HB-203-9.5	33.5	39.2
DMB-HB-203-12.7	43.0	50.5
DMB-HB-254-12.7	69.5	65.0
DMB-HB-305-12.7	102.5	79.5



Ultimate Limit State (ULS) bending moment capacity and shear force values adhere to a Factor of Safety (FOS) of 2.5 per Eurocomp standards; users are advised to confirm and adjust values as needed for specific project requirements.

DMCHAN™



The **DMCHAN™** (Parallel Flange Channel) stands as a versatile solution, excelling in various applications such as stringers for staircases, external joists, beams, and bracing (both diagonal and lateral), making it the most versatile among different DMBeam Shapes. Engineered with a pultruded FRP design, the **DMCHAN™** offers robust performance and is well-suited for a spectrum of structural needs. It's crucial to note that, while the **DMCHAN™** exhibits excellent versatility and strength in numerous applications, its weak resistance to lateral torsional buckling can limit its effectiveness, particularly when spanning long distances.

PRODUCT CODE	HEIGHT, H,mm	WIDTH, W,mm	Thickness, t,mm	Area, A,mm ²	Weight, Kg/m	Shear Area (mm ²)	Moment of Inertia Strong Axis(I _{xx} ,mm ⁴)	Moment of Inertia Weak Axis(I _{yy} ,mm ⁴)	Section Modulus (S,mm ³)
DMB-PFC-76-22-6.4	76	22	6.4	686	1.4	404	476623	22839	12543
DMB-PFC-152-41-6.4	152	41	6.4	1416	2.8	891	4221669	175398	55548
DMB-PFC-152-43-9.5	152	43	9.5	2081	4.1	1264	6016200	274595	79161
DMB-PFC-203-56-9.5	203	56	9.5	2812	5.6	1748	14899331	648736	146791
DMB-PFC-254-70-12.7	254	70	12.7	4681	9.3	2903	38548247	1670150	303530
DMB-PFC-292-70-12.7	292	70	12.7	5164	10.2	3386	54752759	1728440	375019
DMB-PFC-305-76-12.7	305	76	12.7	5481	10.9	3551	64392055	2229600	422243
DMB-PFC-356-90-12.7	356	90	12.7	6485	12.8	4199	105625952	3810530	593404

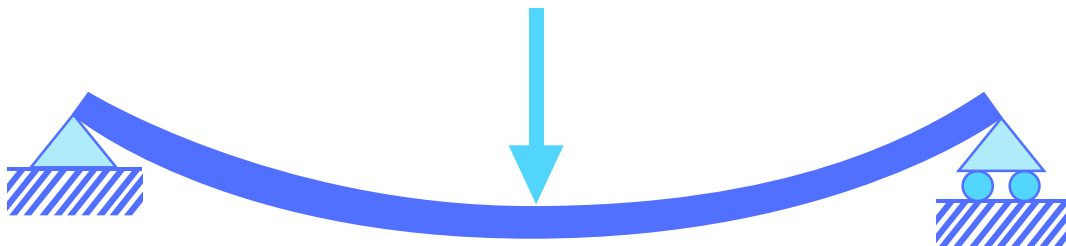
Users are advised to consider this characteristic and take appropriate measures to address potential limitations, as outlined in our product guide.

DMCHAN™

DEFLECTION

DEFLECTION, d,mm	MAX SPAN/L,m, (UDL)		
PRODUCT CODE	2.5 KPA	3 KPA	5 KPA
DMB-PFC-76-22-6.4	1.2	1.1	0.9
DMB-PFC-152-41-6.4	2.4	2.2	1.9
DMB-PFC-152-43-9.5	2.7	2.5	2.1
DMB-PFC-203-56-9.5	3.6	3.4	2.9
DMB-PFC-254-70-12.7	5.0	4.7	4.0
DMB-PFC-292-70-12.7	5.6	5.3	4.5
DMB-PFC-305-76-12.7	5.9	5.6	4.7
DMB-PFC-356-90-12.7	7.0	6.6	5.5

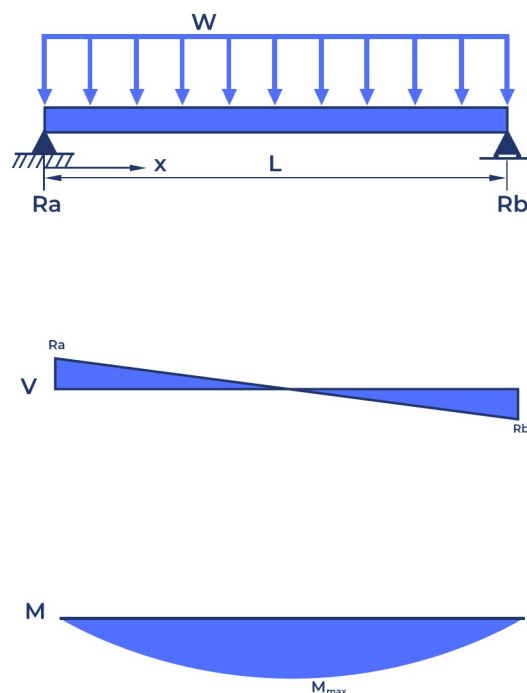
The DM Composite™ Engineering Tables serve as a guide and not a direct engineering replacement. Verification by a qualified engineer is necessary. Deflection tables are based on a span/200 ratio, excluding shear deformation effects. Ultimate Limit State (ULS) bending moment capacity and shear force values adhere to a Factor of Safety (FOS) of 2.5 per Eurocomp standards; users are advised to confirm and adjust values as needed for specific project requirements.



DMCHANTM

BENDING & SHEAR CAPACITIES

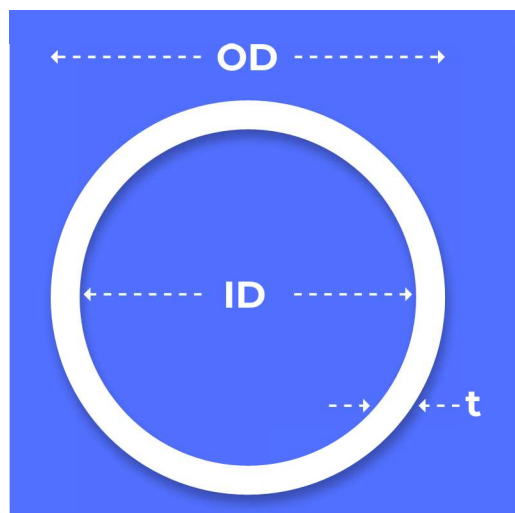
PRODUCT CODE	Max BENDING Moment, M_s /KN.m	MAX SHEAR FORCE, V_s /KN
DMB-PFC-76-22-6.4	1.0	9.1
DMB-PFC-152-41-6.4	4.6	20.0
DMB-PFC-152-43-9.5	6.6	28.3
DMB-PFC-203-56-9.5	12.2	39.2
DMB-PFC-254-70-12.7	25.1	65.0
DMB-PFC-292-70-12.7	31.1	75.8
DMB-PFC-305-76-12.7	35.0	79.5
DMB-PFC-356-90-12.7	49.1	94.0



The DM CompositeTM Engineering Tables serve as a guide and not a direct engineering replacement. Verification by a qualified engineer is necessary. Deflection tables are based on a span/200 ratio, excluding shear deformation effects. Ultimate Limit State (ULS) bending moment capacity and shear force values adhere to a Factor of Safety (FOS) of 2.5 per Eurocomp standards; users are advised to confirm and adjust values as needed for specific project requirements.



DMTUBE™



DMTUBE™ featuring a circular hollow section FRP pultruded design, is a versatile solution suitable for various applications, including guard and hand railings, stanchions, and the use of anti-crush inserts. Offering excellent stiffness, **DMTUBE™** is particularly well-suited for scenarios where this quality is crucial. However, it's important to note that they may be prone to excessive deflection. Despite this, **DMTUBE™** presents a lightweight alternative compared to other **DMBEAM™** Shapes. Users are encouraged to consider these characteristics and select **DMTUBE™** for applications where its unique combination of stiffness and lightweight properties aligns with project requirements. Additional information on optimal usage and considerations can be found in our product guide.

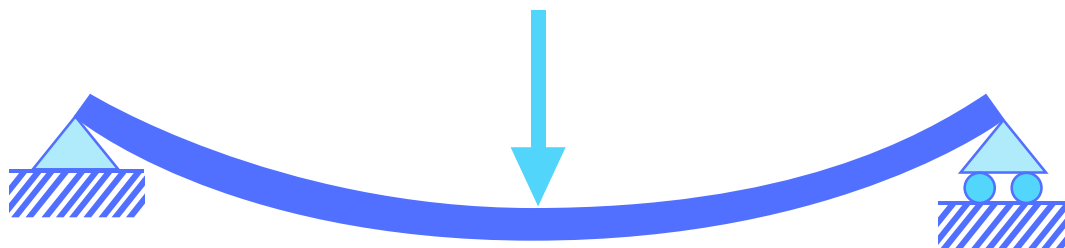
PRODUCT CODE	Description	ID [mm]	OD [mm]	Thickness [mm]
DMB-CHS-19-2.5	DMTUBE™ Circular Hollow Section, 19mm / 14mm x 2.5mm	14	19	2.5
DMB-CHS-20-2	DMTUBE™ Circular Hollow Section, 19mm / 16mm x 2mm	16	20	2
DMB-CHS-23-2.5	DMTUBE™ Circular Hollow Section, 23mm / 18mm x 2.5mm	18	23	2.5
DMB-CHS-26-3	DMTUBE™ Circular Hollow Section, 26mm / 20mm x 3mm	20	26	3
DMB-CHS-32-5	DMTUBE™ Circular Hollow Section, 32mm / 22mm x 5mm	22	32	5
DMB-CHS-32-3	DMTUBE™ Circular Hollow Section, 32mm / 26mm x 3mm	26	32	3
DMB-CHS-36-3.5	DMTUBE™ Circular Hollow Section, 36mm / 3.5mm x 3mm	29	36	3.5
DMB-CHS-50-4	DMTUBE™ Circular Hollow Section, 50mm / 42mm x 4mm	42	50	4
DMB-CHS-50-5	DMTUBE™ Circular Hollow Section, 50mm / 42mm x 4mm	40	50	5
DMB-CHS-50-6.4	DMTUBE™ Circular Hollow Section, 50mm / 37.5mm x 6.4mm	37.2	50	6.4
DMB-CHS-150-9.5	DMTUBE™ Circular Hollow Section, 150mm / 131mm x 9.5mm	131	150	9.5

DMTUBE™

DEFLECTION

DEFLECTION, d,mm	MAX SPAN/L,m, (UDL)		
PRODUCT CODE	1 KPA	2 KPA	3 KPA
DMB-CHS-19-2.5	0.3	0.3	0.2
DMB-CHS-20-2	0.3	0.3	0.2
DMB-CHS-23-2.5	0.4	0.3	0.3
DMB-CHS-32-3.2	0.6	0.5	0.4
DMB-CHS-35-4	0.7	0.6	0.5
DMB-CHS-38-4	0.8	0.6	0.6
DMB-CHS-50-5	1.1	0.9	0.7
DMB-CHS-50-6.4	1.2	1.0	0.8

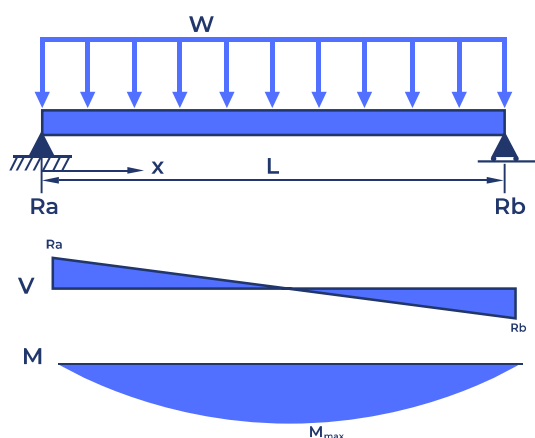
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DMTUBE™

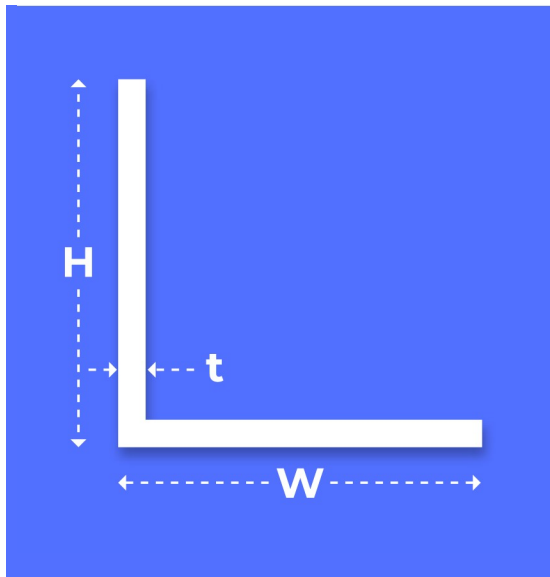
BENDING & SHEAR CAPACITIES

PRODUCT CODE	Max BENDING Moment, Ms/kN.m
DMB-CHS-19-2.5	0.0
DMB-CHS-20-2	0.0
DMB-CHS-23-2.5	0.1
DMB-CHS-32-3.2	0.2
DMB-CHS-35-4	0.2
DMB-CHS-38-4	0.3
DMB-CHS-50-5	0.5
DMB-CHS-50-6.4	0.7



The DM Composite™ Engineering Tables serve as a guide and not a direct engineering replacement. Verification by a qualified engineer is necessary. Deflection tables are based on a span/200 ratio, excluding shear deformation effects. Ultimate Limit State (ULS) bending moment capacity and shear force values adhere to a Factor of Safety (FOS) of 2.5 per Eurocomp standards; users are advised to confirm and adjust values as needed for specific project requirements.

DMANGLE™



DMANGLE™ designed with FRP equal angles, serves as an ideal cost-effective solution for various applications, including lateral and diagonal bracing, trench and bund end supports, and connection brackets, making it a highly versatile **DMBEAM™** option. However, it's crucial to note that **DMANGLE™**, while versatile, is relatively weak in strength. As a result, it may not be suitable for use as a primary structural member. Users are advised to consider these characteristics and strategically deploy **DMANGLE™** for applications where its cost-effectiveness and versatility align with project requirements, while being mindful of its limitations. Further details on optimal usage and considerations can be found in our product guide.

PRODUCT CODE	HEIGHT, H,mm	WIDTH, W,mm	Thickness, t,mm	Area, A,mm ²	Weight, Kg/m	Shear Area (mm ²)	Moment of Inertia (I,mm ⁴)	Section Modulus (S,mm ³)
DMB-ELA-50-6.4	50	50	6.4	599	1.2	279	138458	3939
DMB-ELA-76-6.4	76	76	6.4	932	1.8	445	517220	9467
DMB-ELA-76-9.5	76	76	9.5	1354	4.1	632	724775	13543
DMB-ELA-102-6.4	102	102	6.4	1265	2.5	612	1289680	17399
DMB-ELA-102-9.5	102	102	9.5	1848	3.7	879	1832490	25104
DMB-ELA-152-12.7	152	152	12.7	3700	7.3	1769	8218610	75189

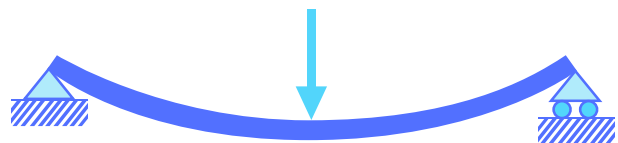
DMANGLE™

DEFLECTION

DEFLECTION, d,mm	MAX SPAN/L,m, (UDL)		
PRODUCT CODE	2.5 KPA	3 KPA	5 KPA
DMB-ELA-50-6.4	0.8	0.7	0.6
DMB-ELA-76-6.4	1.2	1.1	0.9
DMB-ELA-76-9.5	1.3	1.2	1.1
DMB-ELA-102-6.4	1.6	1.5	1.3
DMB-ELA-102-9.5	1.8	1.7	1.4
DMB-ELA-152-12.7	3.0	2.8	2.4



The DM Composite™ Engineering Tables serve as a guide and not a direct engineering replacement. Verification by a qualified engineer is necessary. Deflection tables are based on a span/200 ratio, excluding shear deformation effects.

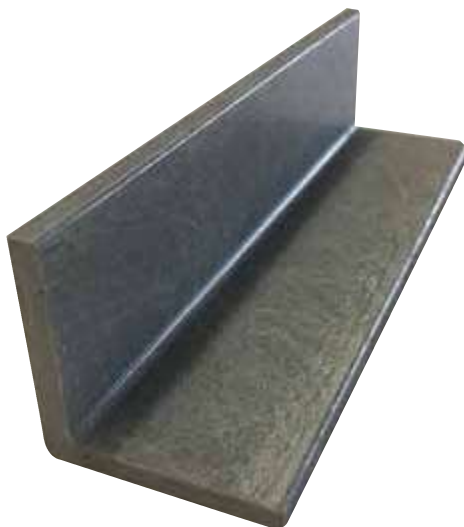
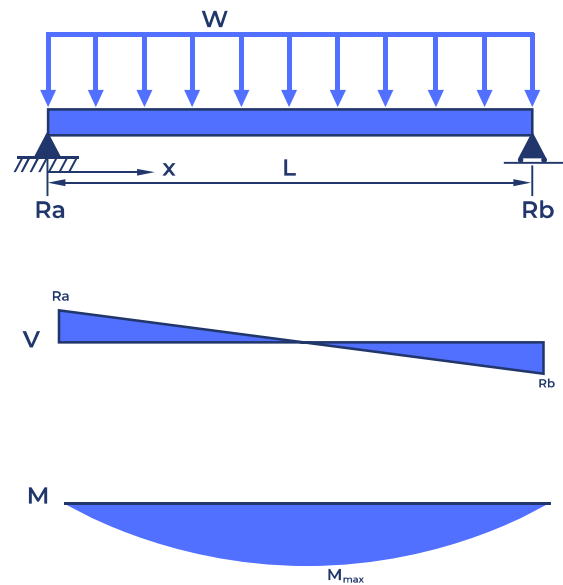


Ultimate Limit State (ULS) bending moment capacity and shear force values adhere to a Factor of Safety (FOS) of 2.5 per Eurocomp standards; users are advised to confirm and adjust values as needed for specific project requirements.

DM ANGLE™

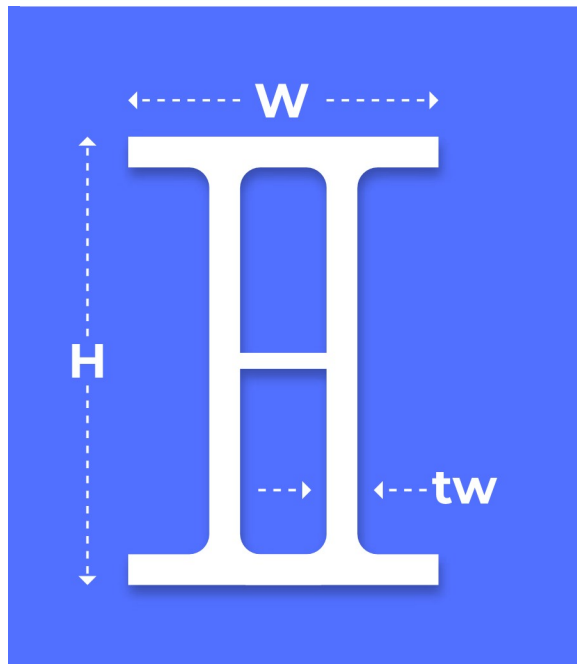
BENDING & SHEAR CAPACITIES

PRODUCT CODE	Max BENDING Moment, M_s /KN.m	MAX SHEAR FORCE, V_s /KN
DMB-ELA-50-6.4	0.3	6.3
DMB-ELA-76-6.4	0.8	10.0
DMB-ELA-76-9.5	1.1	14.2
DMB-ELA-102-6.4	1.4	13.7
DMB-ELA-102-9.5	2.1	19.7
DMB-ELA-152-12.7	6.2	39.6



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DMSPAN™



The **DMSPAN™** stands out as the strongest among all **DMBEAM™** and FRP pultruded sections. Its transverse web stiffeners significantly enhance the transverse strength of the profile, making it exceptionally robust. However, due to its size and cost, **DMSPAN™** is less versatile compared to other **DMBEAM™**.

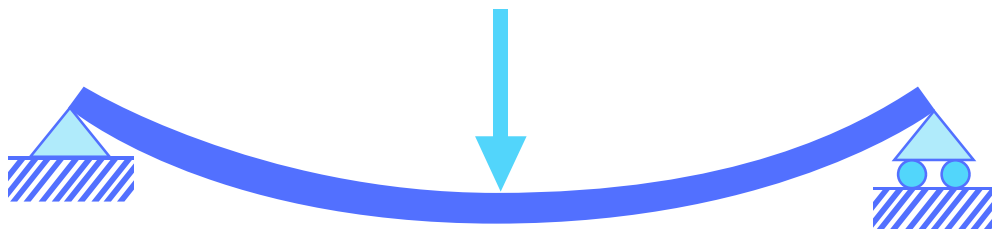
It is particularly well-suited for long-spanning applications, such as pedestrian bridges and primary structural beams, where its exceptional strength is a key requirement. Users are encouraged to consider these attributes when selecting **DMSPAN™** for projects and to explore further details on optimal usage and considerations in our product guide.

PRODUCT CODE	HEIGHT, H,mm	WIDTH, W,mm	Thickness, t,mm	Area, A,mm ²	Weight, Kg/m	Shear Area (mm ²)	Moment of Inertia Strong Axis (I _{xx} ,mm ⁴)	Moment of Inertia Weak Axis (I _{yy} ,mm ⁴)	Section Modulus (S,mm ³)
DMB-DWB-475	475	225	10-16	16060	31.8	8900	524000000	60700000	2206316
DMB-DWB-610	610	203	6-18	19216	38.0	9180	986000000	52600000	3232787
DMB-DWB-914	914	254	6-16	1781	53.3	15000	2870000000	141000000	6280088

DMSPAN™

DEFLECTION

DEFLECTION, d,mm	MAX SPAN/L,m, (UDL)		
PRODUCT CODE	2.5 KPA	3 KPA	5 KPA
DMB-DWB-475	11.9	11.2	9.5
DMB-DWB-610	14.7	13.8	11.7
DMB-DWB-914	21.0	19.8	16.7

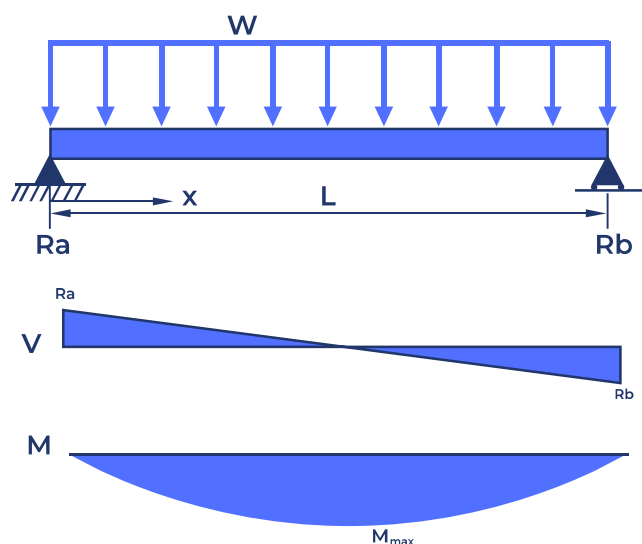


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DMSPAN™

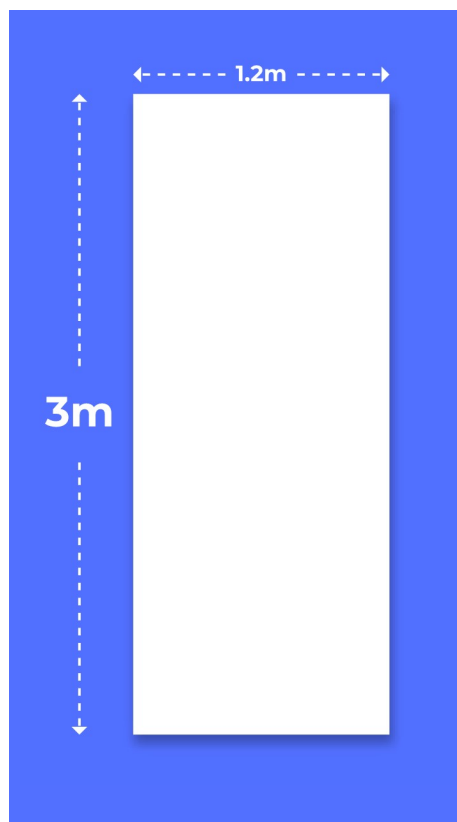
BENDING & SHEAR CAPACITIES

PRODUCT CODE	Max BENDING Moment, M_s /kN.m	MAX SHEAR FORCE, V_s /kN
DMB-DWB-475	182.7	199.4
DMB-DWB-610	267.7	205.6
DMB-DWB-914	520.0	336.0



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DMFLAT™



DMFLAT™, a frp flat plate, functions as an accessory subdivision of **DMBEAMS™**. It can be utilized as a spacer, stiffener, sealant cap, and in other retrofit or engineering-required solutions, especially around composite connections. Unlike pultrusion-manufactured components, **DMFLAT™** is crafted through hand lay-up, which makes it less precise in dimension tolerances and susceptible to warping under loads.

Users should consider these characteristics when incorporating **DMFLAT™** into their projects and explore further details on optimal usage and considerations in our product guide.

PRODUCT CODE	Description	Height [mm]	length [mm]	weight [mm]
DMB-FLP-3.2	DMFLAT™ Flat Plate, 1200mm x 3000mm x 3.2mm	3000	1200	3.2
DMB-FLP-6.4	DMFLAT™ Flat Plate, 1200mm x 3000mm x 6.4mm	3000	1200	6.4
DMB-FLP-9.5	DMFLAT™ Flat Plate, 1200mm x 3000mm x 9.5mm	3000	1200	9.5
DMB-FLP-12.7	DMFLAT™ Flat Plate, 1200mm x 3000mm x 12.7mm	3000	1200	12.7
DMB-FLP-15.2	DMFLAT™ Flat Plate, 1200mm x 3000mm x 15.2mm	3000	1200	15.2

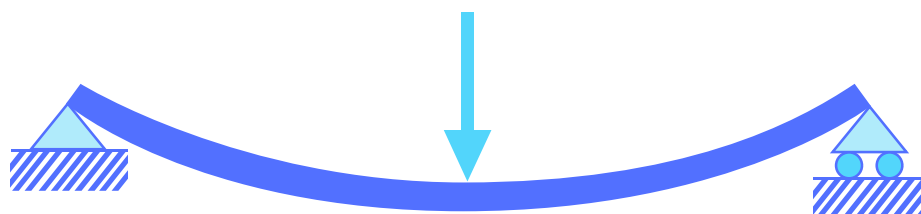
DMFLAT™

DEFLECTION

DEFLECTION, d,mm	MAX SPAN/L,m, (UDL)		
PRODUCT CODE	2.5 KPA	3 KPA	5 KPA
DMB-FLP-3.2	0.2	0.2	0.2
DMB-FLP-6.4	0.4	0.4	0.3
DMB-FLP-9.5	0.7	0.7	0.5
DMB-FLP-12.7	0.9	0.9	0.7
DMB-FLP-15.9	1.1	1.1	0.9
DMB-FLP-19.1	1.3	1.3	1.0
DMB-FLP-25.4	1.7	1.7	1.4



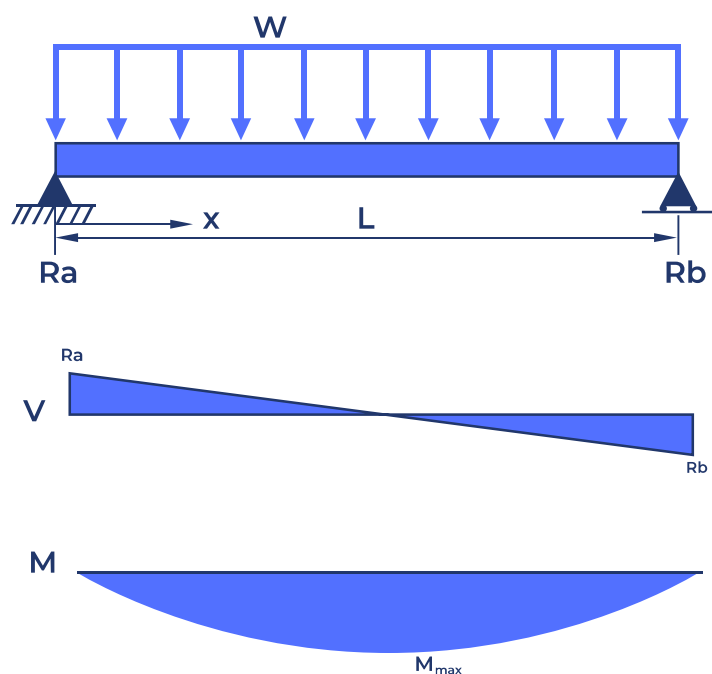
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DMFLAT™

BENDING & SHEAR CAPACITIES

PRODUCT CODE	Max BENDING Moment, Ms/KN.m
DMB-FLP-3.2	0.2
DMB-FLP-6.4	0.7
DMB-FLP-9.5	1.5
DMB-FLP-12.7	2.7
DMB-FLP-15.9	4.2
DMB-FLP-19.1	6.0
DMB-FLP-25.4	10.7



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FABRICATION

1. EQUIPMENT:

- Use specialized tools such as diamond core drill bits for drilling to prevent burring of holes.
- Employ cutting tools designed for FRP materials, ensuring precision and clean edges.
- Utilize routers or circular saws with fine-toothed blades for accurate cuts.

1. SAFETY REQUIREMENTS:

- Wear appropriate personal protective equipment (PPE) including safety goggles to protect against debris and face masks to guard against FRP dust.
- Use gloves made of materials resistant to FRP fibers to prevent skin irritation.
- Ensure proper ventilation in the working area to minimize dust exposure.

3. SPECIFIC TOOLS FOR FRP CUTTING AND DRILLING:

- Diamond Core Drill Bits: Prevents burring of holes during the drilling process.
- Carbide-tipped or diamond-coated blades for cutting FRP with precision.
- High-speed routers for shaping and trimming FRP edges.

4. WORK AREA PRECAUTIONS:

- Clearly mark cutting and drilling areas to prevent unauthorized access.
- Implement a dust collection system to minimize airborne particles.
- Regularly clean the work area to reduce the risk of slips and falls.



DMBEAM™, recognized as high-performance FRP structural elements, prove to be an excellent choice for a wide array of construction applications due to their durability, strength, and resilience to harsh environmental conditions. The installation process for these beams is user-friendly and can be carried out by seasoned construction professionals or individuals experienced in handling FRP materials.

Prior to the installation, it is imperative to conduct a thorough inspection of the **DMBEAM™** for any potential damage or defects that may have occurred during transportation or storage. If any issues are detected, they should be promptly addressed before installation to ensure the long-term performance and structural integrity of the project.



Initiating the installation process requires the meticulous preparation of the designated area where the DM Beams will be placed. This preparation may involve tasks such as the removal of existing materials or structures, excavation, or ground grading to establish a level and stable foundation. The specific preparatory measures will vary based on the unique characteristics of the project and the intended application of the **DMBEAM™**.



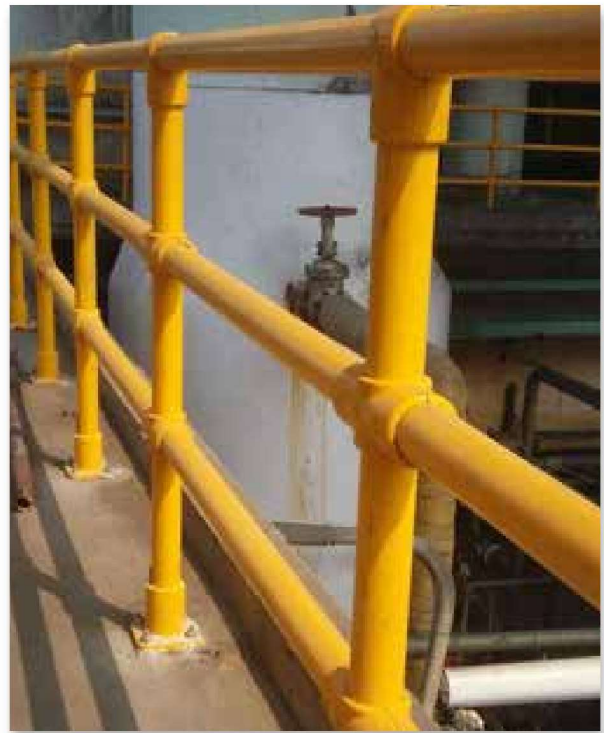
Once the area is adequately prepared, the installation of **DMBEAM™** can commence. One notable advantage of these beams lies in their lightweight and manageable nature, making them particularly suitable for deployment in remote or challenging-to-access locations. Furthermore, **DMBEAM™** can be easily cut and shaped on-site to precisely fit the distinctive requirements of the project, adding to their adaptability in diverse construction applications.

MAINTENANCE

DMBEAM™ stand out as an ideal choice for low-maintenance structural solutions. Unlike traditional materials, these beams boast minimal to no maintenance requirements, offering a durable alternative that does not succumb to rust, corrosion, degradation, or cracking overtime. Their inherent resistance to environmental elements ensures a prolonged lifespan and consistent structural integrity, significantly reducing the need for regular upkeep. This feature makes **DMBEAM™** a cost-effective and reliable option for various construction applications, providing peace of mind to property owners and project managers alike.



**STEEL RAILS
OVER TIME**



DMBEAM™ OVER TIME

DMBEAMTM

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