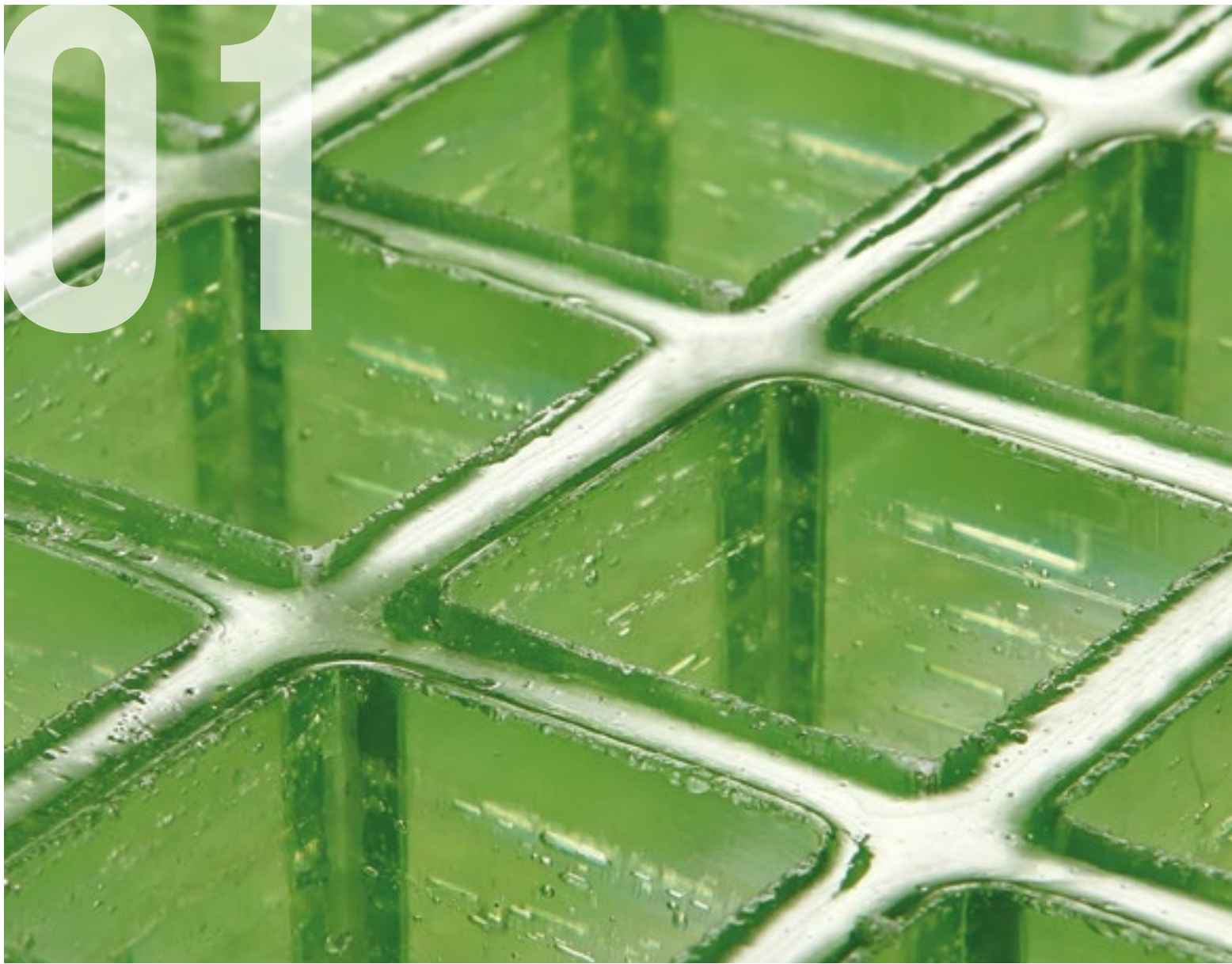


Fiberglass Reinforced Polymer
CATALOGUE

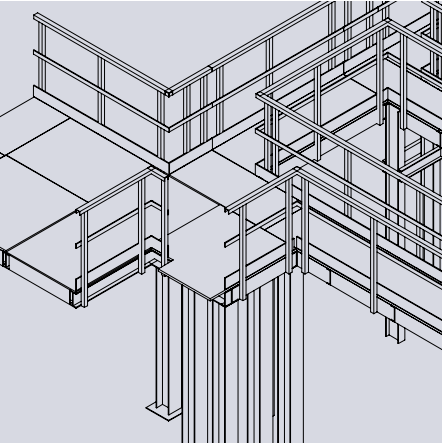


01



SERVICES

ENGINEERING



MECHANICAL TESTS



CHEMICAL RESISTANCE TEST



ABOUT US



Since its inception in 1977, M.M. has been operating in the **glass fibre reinforced plastics (FRP)** industry, producing **high quality gratings and structures** (handrail systems, walkways, stairways, ladders, fences, gates, etc.). The intrinsic properties of FRP allow to create light, resistant and easy to install structures that do not require maintenance and are characterised by great versatility of use.

The company offers **customized solutions and additional services** such as technical design, structural calculation for composite materials, chemical and mechanical resistance tests, any type of cut to size, shaping and finishing.

Every phase of the company process, from design to production, from the quotation to the follow-up service, is focused on **customer satisfaction**.

HIGH QUALITY RAW MATERIALS

CUSTOMIZED SOLUTIONS

RESEARCH AND INNOVATION

CUTTING AND SHAPING



SURFACE TREATMENTS

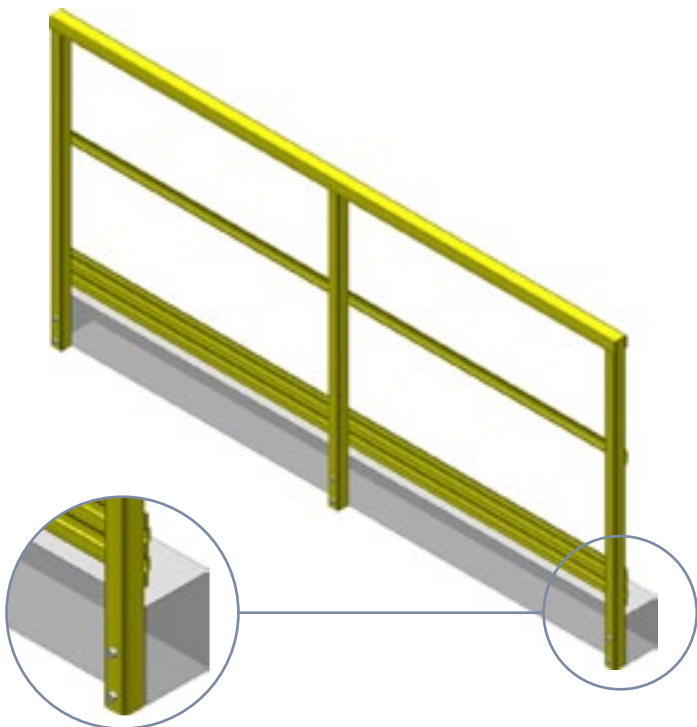


VERIFICATION OF PRODUCT CONFORMITY





STANDARD HANDRAIL SYSTEMS



VERTICAL FIXING

CODE		PVST01
HANDRAIL	"C" type profile	60x50x5 mm
STANCHION	"Square" profile	50x50x5 mm
KNEERAIL	"Shaped" profile	55x5 mm
TOE PLATE	"Shaped" profile	150x5 mm
REINFORCEMENT FOR STANCHION	tubular polyamide	40x40x130 mm

HANDRAIL SYSTEMS



The handrail systems are made with pultruded profiles in isophthalic polyester resin and fibreglass.

The handrail systems, supplied with **vertical or horizontal fixing**, are designed and manufactured according to UNI EN ISO 14122-3 standard and are available in **standard or ergonomic versions**.

The ergonomic handrail differs from the standard handrail for its ergonomic C profile and for the knee rail designed with a tubular profile (not shaped as in the standard version).

The connections between the elements are achieved with rivets and steel bolts.

To make simple and quick the assembly of handrail systems, a **series of accessories has been developed to facilitate installation**.

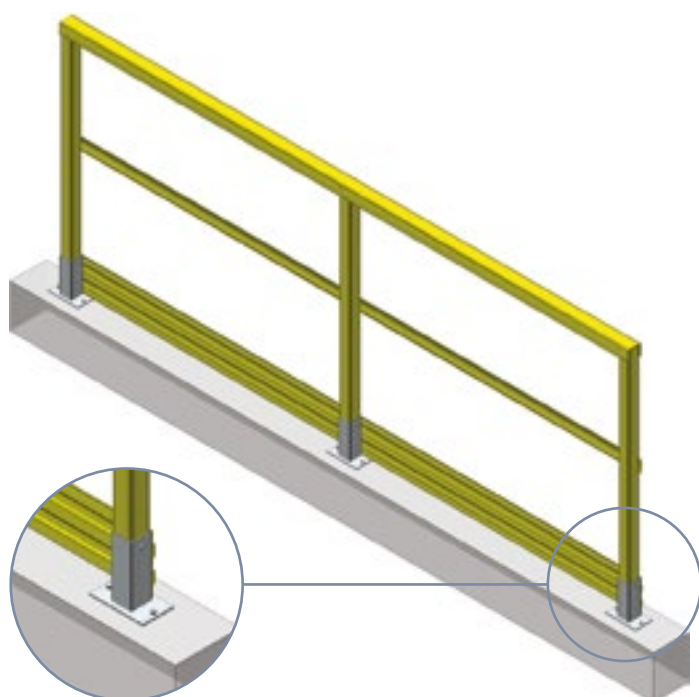
All handrails are supplied in **standard grey (RAL 7035) or yellow (RAL 1018)**.

On request, they are available in other colours and resins.

EASY TO INSTALL

ERGONOMIC HANDRAIL SYSTEMS

SAFETY ON WORKING AREAS



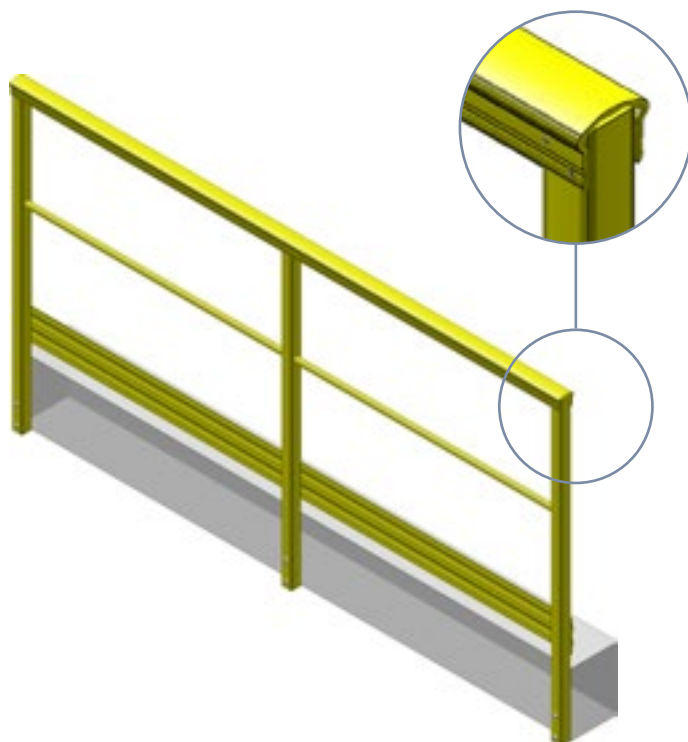
HORIZONTAL FIXING

CODE		POST01
HANDRAIL	"C" type profile	60x50x5 mm
STANCHION	"Square" profile	50x50x5 mm
KNEERAIL	"Shaped" profile	55x5 mm
TOE PLATE	"Shaped" profile	150x5 mm
FIXING FOR PLATE BASE UNIT	stainless steel plate	base 140x80 mm housing 50x50x155 mm

ERGONOMIC HANDRAIL SYSTEM

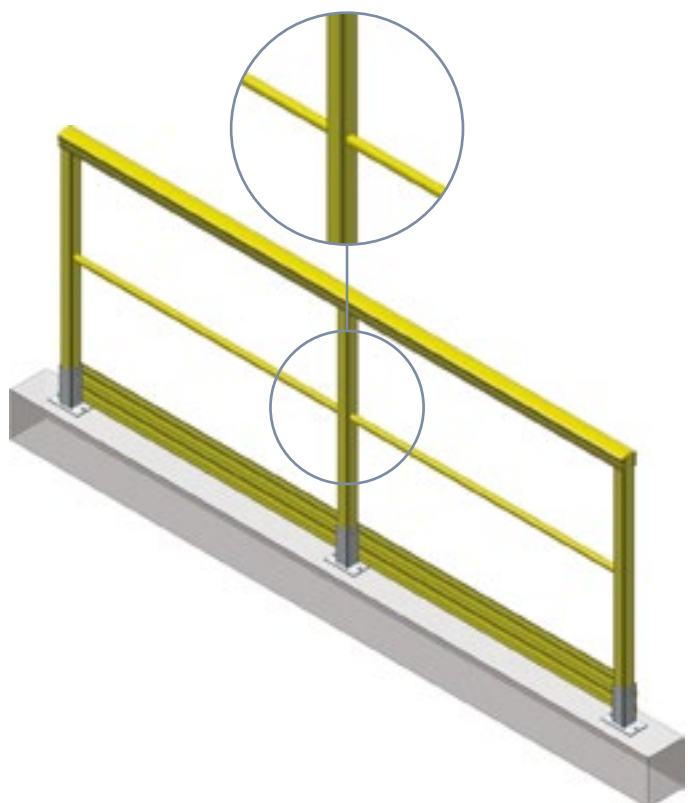
VERTICAL FIXING

CODE	PVERG01	
HANDRAIL	ergonomic profile	60x60x5 mm
STANCHION	"Square" profile	50x50x5 mm
KNEERAIL	"Tubular" profile	Ø 26x19 mm
TOE PLATE	"Shaped" profile	150x5 mm
REINFORCEMENT FOR STANCHION	polyamide tubular	40x40x130 mm



HORIZONTAL FIXING

CODE	POERG01	
HANDRAIL	ergonomic profile	60x60x5 mm
STANCHION	"Square" profile	50x50x5 mm
KNEERAIL	"Tubular" profile	Ø 26x19 mm
TOE PLATE	"Shaped" profile	150x5 mm
FIXING FOR PLATE BASE UNIT	stainless steel plate	base 140x80 mm housing 50x50x155 mm



ACCESSORIES FOR HANDRAIL SYSTEMS

ARTICULATED JOINTS



ADJUSTABLE JOINT FOR HANDRAIL

CODE	58PA66SCE17035
MATERIAL	plastic
WEIGHT	180 g
COLOUR	grey



ADJUSTABLE JOINT FOR KNEERAIL

CODE	58PA66ST117035
MATERIAL	plastic
WEIGHT	40 g
COLOUR	grey

CAPS



TUBE END CAP

CODE	58PA66TT117035
MATERIAL	plastic
WEIGHT	15 g
COLOUR	grey



ERGONOMIC HANDRAIL CAP

CODE	58PA66TCE17035
MATERIAL	plastic
WEIGHT	30 g
COLOUR	grey

REINFORCEMENTS AND PLATES



STANCHION REINFORCEMENT

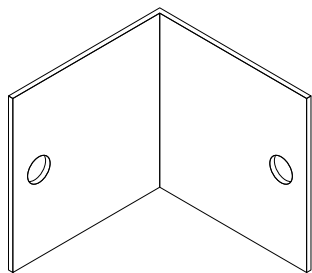
CODE	58PA66IFPQ50505
MATERIAL	polyamide
WEIGHT	130 g
COLOUR	black



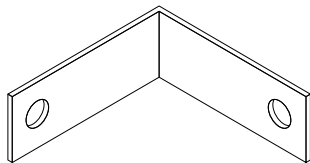
FIXING PLATE FOR BASE UNIT (STANCHION)

CODE	56ASTAFFA8
MATERIAL	stainless steel
WEIGHT	850 g
COLOUR	base 140x80 mm housing 50x50x155 mm

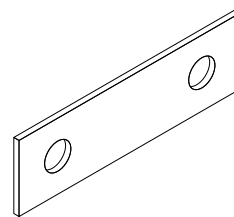
JOINTS

**90° joint for handrail**available also for angles $\neq 90^\circ$

CODE	56A40404012
MATERIAL	stainless steel
SIZE	40x40x40 mm
THICKNESS	1,2 mm thick

**90° joint for shaped profile**available also for angles $\neq 90^\circ$

CODE	56A40401512
MATERIAL	stainless steel
SIZE	40x40x15 mm
THICKNESS	1,2 mm thick

**Linear joint for shaped profile**

CODE	56P501512
MATERIAL	stainless steel
SIZE	50x15 mm
THICKNESS	1,2 mm thick

VERIFICATION OF COMPLIANCE WITH EN ISO 14122-3:2010

In order to guarantee the maximum safety of our products, the handrail systems with both horizontal and vertical fixing were subjected to tests verifying compliance with EN ISO 14122-3:2010 requirements. The results of these tests have been certified by Bureau Veritas.

Industry & Facilities Division		Page: 1 / 8	
		<input checked="" type="checkbox"/> Interim <input type="checkbox"/> Final	
		INSPECTION CERTIFICATE No. 1915202/PAD/IC/02 BV Job nr: 14.IT.1915202.139 Chrono No. P6457/14/EB/eb	
PROJECT: //		Ref. : //	
BV Client: M.M. srl Via A. Zanussi 300/302, 33100 Udine (Italy)		P/o No.: 484 dated 24 Nov. 2014	
Manufacturer: M.M. srl Via A. Zanussi 300/302, 33100 Udine (Italy)		Ref. No.: N.A.	
Inspection requested by: M.M. srl.			
SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY	
FRP GUARDRAIL HANDRAIL type "PVSTO1" and "PVERGO1" VERTICAL FIXING, WITH POLYAMIDE GRAFT	01	1	
Scope of inspection: <ul style="list-style-type: none"> Particulars: see next page(s); Reference documents used for inspection: UNI EN ISO 14122-3:2010; NF E85-015. SAFETY OF MACHINERY-PERMANENT MEANS OF ACCESS TO MACHINERY: Part 3: Stairs, steploaders and guard-rails. Place of inspection & date or period: Udine's industrial area (UD) Italy, 1st December 2014 Annexes to this certificate: None 			
The undersigned, inspector to Bureau Veritas, certifies that the hereabove mentioned supply was inspected in conformity with the applicable requirements of the purchase order and the contractual requirements governing the mission entrusted to Bureau Veritas without any remarks.			
Inspected by: Name: Edi BULFO Signature:		Checked by: Name: Fabio ALFINE Signature:	
Date of issue : 01 DEC. 2014 Revision date: until 30 NOV. 2015			
Inspection centre: BV PADUA - NORTH EAST AREA - ITALY			
INSP 005 En GM SI 101	1/8	Copyright Bureau Veritas 04/2011	

Industry & Facilities Division		Page: 1 / 8	
		<input checked="" type="checkbox"/> Interim <input type="checkbox"/> Final	
		INSPECTION CERTIFICATE No. 1915202/PAD/IC/01 BV Job nr: 14.IT.1915202.139 Chrono No. P6447/14/EB/eb	
PROJECT: //		Ref. : //	
BV Client: M.M. srl Via A. Zanussi 300/302, 33100 Udine (Italy)		P/o No.: 484 dated 24 Nov. 2014	
Manufacturer: M.M. srl Via A. Zanussi 300/302, 33100 Udine (Italy)		Ref. No.: N.A.	
Inspection requested by: M.M. srl.			
SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY	
FRP GUARDRAIL HANDRAIL type "POSTO1" and "POERGO1" HORIZONTAL FIXING, WITH STAINLESS STEEL BRACKET	01	1	
Scope of inspection: <ul style="list-style-type: none"> Particulars: see next page(s); Reference documents used for inspection: UNI EN ISO 14122-3:2010; NF E85-015. SAFETY OF MACHINERY-PERMANENT MEANS OF ACCESS TO MACHINERY: Part 3: Stairs, steploaders and guard-rails. Place of inspection & date or period: Udine's industrial area (UD) Italy, 1st December 2014 Annexes to this certificate: None 			
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INSP 005 En GM SI 101	1/8	Copyright Bureau Veritas 04/2011	

M.M. SRL

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