



TECHNICAL DOSSIER

POLYCARBONATE SYSTEM

SMARTPIÙ



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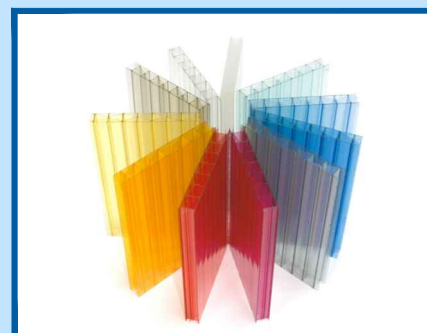
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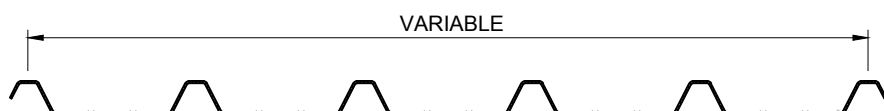
MULTIWALL POLYCARBONATE SHEET CROSS SECTION

ATTENTION:

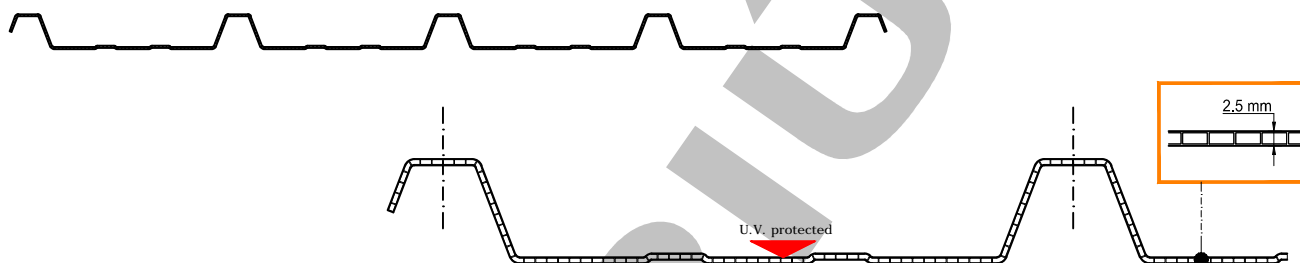
THE SMARTPIÙ SHEETS ARE AVAILABLE IN DIFFERENT SECTIONS SUITABLE TO THE MAIN PRODUCERS OF METAL AND SANDWICH PANELS. THE CORRUGATED SECTIONS ARE GROUPED AS FOLLOWS:

FOR FURTHER DETAILS PLEASE CONTACT THE POLYPIÙ TECHNICAL OFFICE

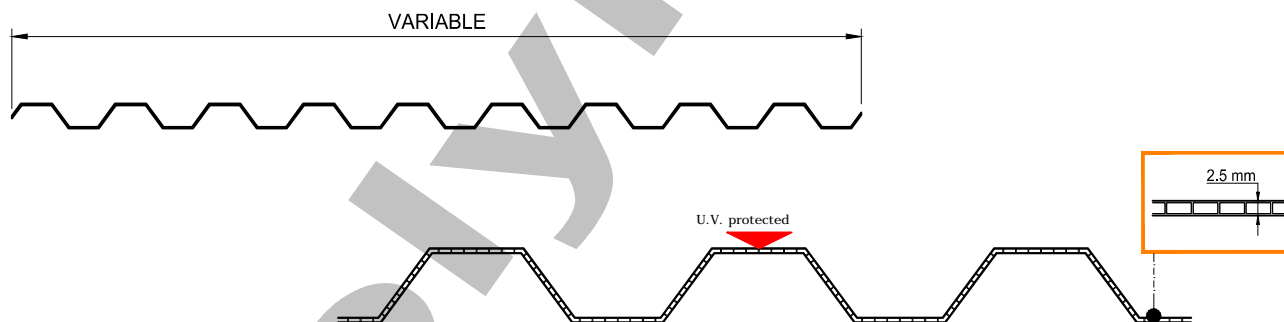
SMARTPIÙ 6 CORRUGATIONS



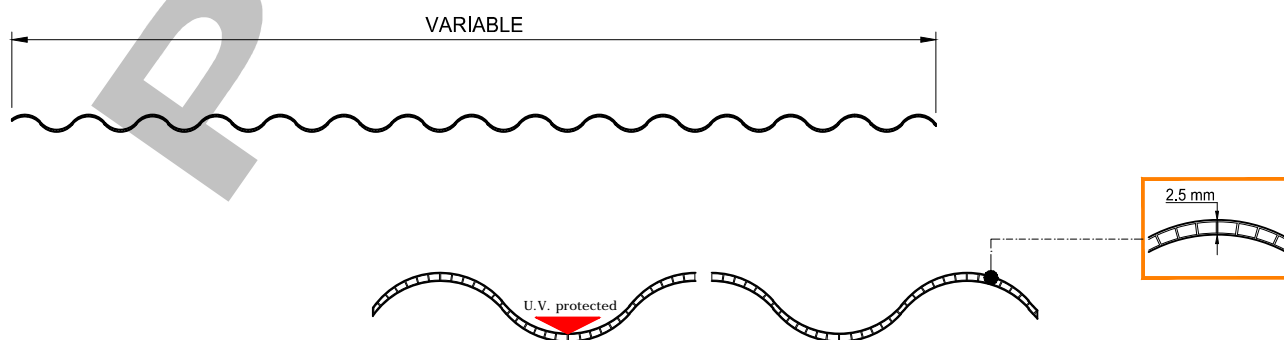
SMARTPIÙ 5 CORRUGATIONS



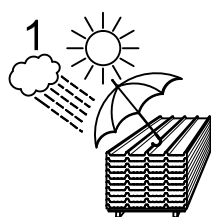
SMARTPIÙ MULTIWAVE GRECA SHEETS



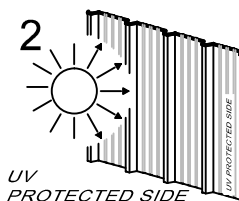
SMARTPIÙ CORRUGATED SHEETS: Onda 76/18 and Onda 146/48



TECHNICAL RECOMMENDATION:



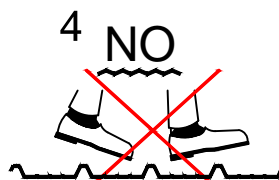
1. PROTECT THE SHEETS BY THE SUN AND RAIN DURING THE STORAGE AND IN GENERAL BEFORE THE FITTING



2. INSTALL THE SHEETS ALWAYS WITH THE UV PROTECTED LAYER FACING OUTWARDS !

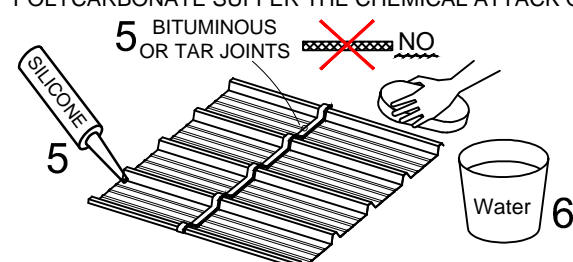


3. MULTIWALL POLYCARBONATE SHEETS CAN NOT BE WALKED UPON



4. DO NOT WALK ONTO THE SHEETS AT ANY TIME. FOLLOW SAFETY REGULATIONS AND SAFE METHODS OF INSTALLATION

POLYCARBONATE SUFFER THE CHEMICAL ATTACK OF SOME PRODUCTS, THEREFORE:



5. USE ONLY COMPATIBLE CLEAR SILICONE FOR THE SEALING

6. USE ONLY WATER AND MILD DETERGENTS FOR THE CLEANING.

RESISTANCE AGAINST CHEMICALS

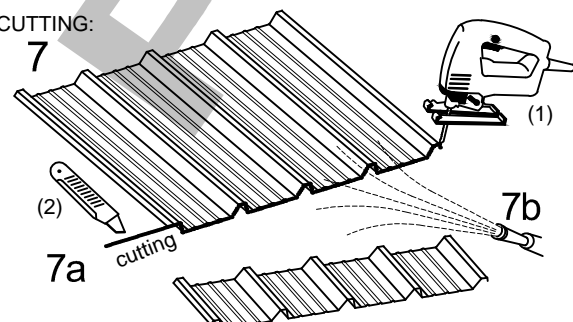
CHEMICALS	CHANGE
INORGANIC SALTS	
Sodium chloride 10%	Unchanged
Potassium nitrate 10%	Unchanged
Potassium bichromate 10%	Yellowing
Sodium sulphate 10%	Unchanged
Ammonium chloride	Unchanged
Sodium bicarbonate 10%	Surface cracking
INORGANIC ACIDS	
Hydrochloric acid 35%	Cracking
Hydrochloric acid 10%	Unchanged
Sulphuric acid 70%	Unchanged
Sulphuric acid 30%	Unchanged
Nitric acid 40%	Yellowing
Nitric acid 10%	Yellowing
Chromic acid 10%	Unchanged
Concentrated hydrofluoric acid	Unchanged
ALKALIS	
Sodium hydrate 1%	Unchanged
Sodium hydrate 10%	Light clouding
Ammonium hydrate 10%	Darkening and disintegration
Calcium hydrate 10%	Unchanged
ORGANIC ACIDS	
Acetic acid 70%	Unchanged
Acetic acid 10%	Unchanged
Formic acid 30%	Unchanged

CHEMICALS	CHANGE
Lactic acid 5%	Unchanged
Oxalic acid 10%	Unchanged
Benzoic acid 10%	Unchanged
Oleic acid 100%	Unchanged
LUBRICATING OILS	
Silicone oil	Unchanged
Paraffin oil	Unchanged
Machine oil	Unchanged
PLASTICIZERS	
Tricresyl phosphate	Light clouding
Diocetyl adipate	Unchanged
Diocetyl phthalate	Unchanged
Butyl stearate	Unchanged
Acid trimethyl esters	Unchanged
ALCOHOLS	
Methyl alcohol	Surface cracking
Ethyl alcohol 50%	Unchanged
n-Butanol	Unchanged
Ethylene glycol	Unchanged
VARIOUS	
Benzole	Rapid decomposition
Toluol	Rapid decomposition
Industrial petrol	Yellowing, opacifying and cracking
Kerosene	Unchanged
Diesel oil	Unchanged
n-Heptane	Unchanged
Cyclohexane	Unchanged

CHEMICALS	CHANGE
Methyl isobutyl ketone	Clouding and softening
Butyl acetate	Clouding and softening
Methyl methacrylate	Clouding and softening
Acrylonitrile decomposition	Rapid
Vinyl acetate	Clouding and softening
Styrole	Clouding and softening
Ethyl ether (5 °C)	Swelling
Diethylenetriamine	Slow decomposition
Ethylenediamine	Slow decomposition
Triethanolamine	Surface cracking
Phenol 5%	Yellowing and opacifying
Cresol	Unchanged
Formalin	Unchanged
Hydrogen dioxide 10%	Light yellowing
Triammoniumcitrate (pH = 9)	Unchanged
Triammoniumcitrate (pH = 5)	Unchanged

Testing temperature = + 23 °C

CUTTING:



THE SMARTPIÙ SHEETS ARE SUPPLIED TO THE EXACT LENGTH REQUIRED AND WITH BOTH THERMOSEALED ENDS !

7a. CUTTING OF THE SHEETS CAN BE EXECUTED ON SITE BY MEANS OF A BACK SAWING MACHINE (1) OR OF CUTTER (2). SEAL THE OPEN CELLS AFTER CUTTING.

7b. BLOW OR VACUUM DUST IN EXCESS AFTER CUTTING BEFORE SEALING ENDS

DRILLING:

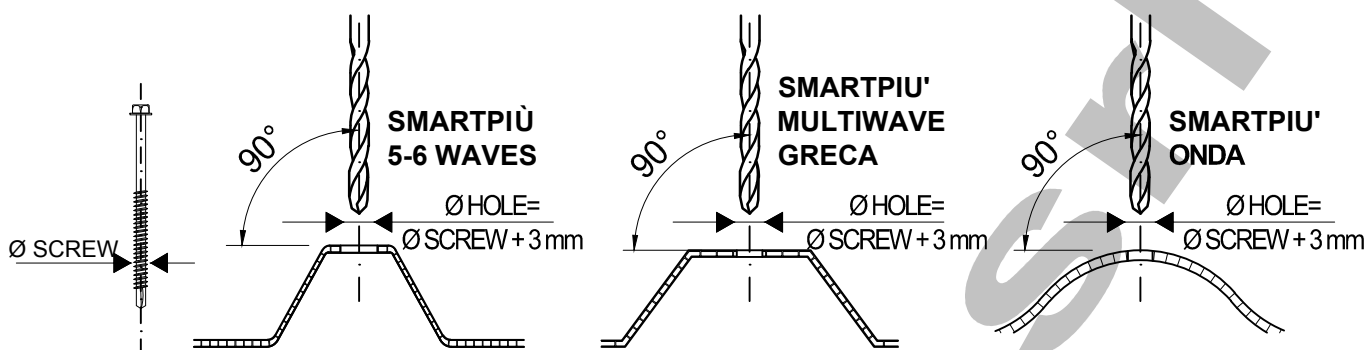
8

TO REALIZE
DRILLING ON THE
BUILDING SITE USE
A DUE FORM DRILL



NOTE:

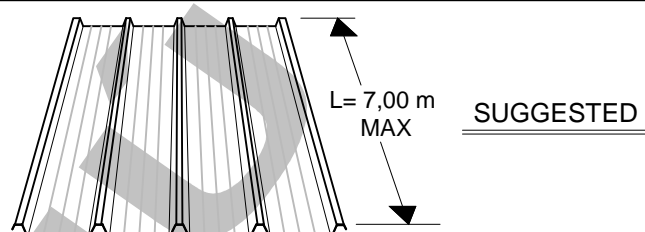
IT IS SUGGESTED REALIZING HOLES ON THE SMARTPIÙ SHEET WITH A DIAMETER WIDER OF 3mm IF COMPARED TO THE DIAMETER OF THE SCREW (IT IS ADVISABLE TO SLOT THE HOLE LENGTHWISE)



SHEET LENGTH:

9

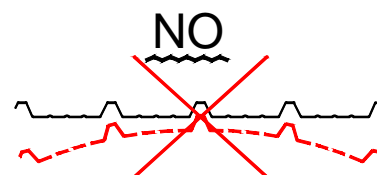
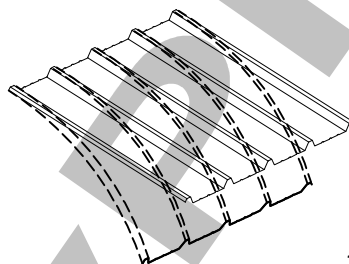
FOR ALL APPLICATION WITH
FLAT AND CURVED SHEET,
A MAXIMUM LENGTH OF 7,00 M IS SUGGESTED



CURVING:

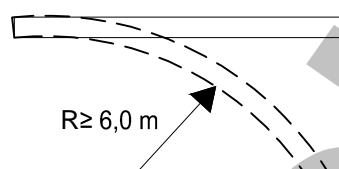
10

THE TOTAL CURVING OF THE
SHEETS MUST ALWAYS BE
REALIZED LONGITUDINALLY



10.a. COLD BENDING RADIUS:

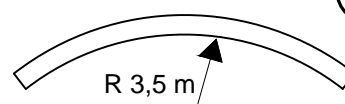
RESPECT THE MINIMUM BENDING
RADIUS OF THE SHEET



NOTE:
COLD BENDING
RADIUS MIN 6,0 m
FOR SHEET
LENGTH OVER 4,0 m

10.b. HOT BENDING:

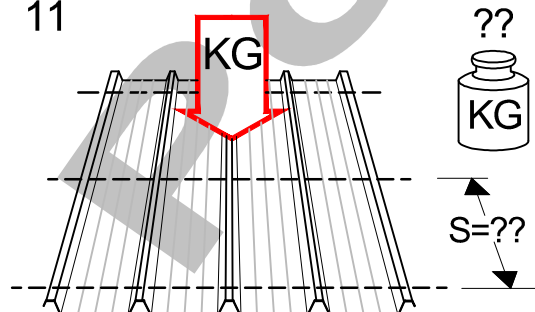
CURVED SHEETS SUPPLIED
WITH 3,5 RADIUS



NOTE:
BEND THE
SHEETS
FOLLOWING
THE CELLS
DIRECTION

LOADINGS AND SPACINGS:

11



11. CHECK OUR TECHNICAL LITERATURE TO
DETERMINE LOADING AND SPACING OF THE
WHOLE SYSTEM

WARRANTY & CERTIFICATIONS:

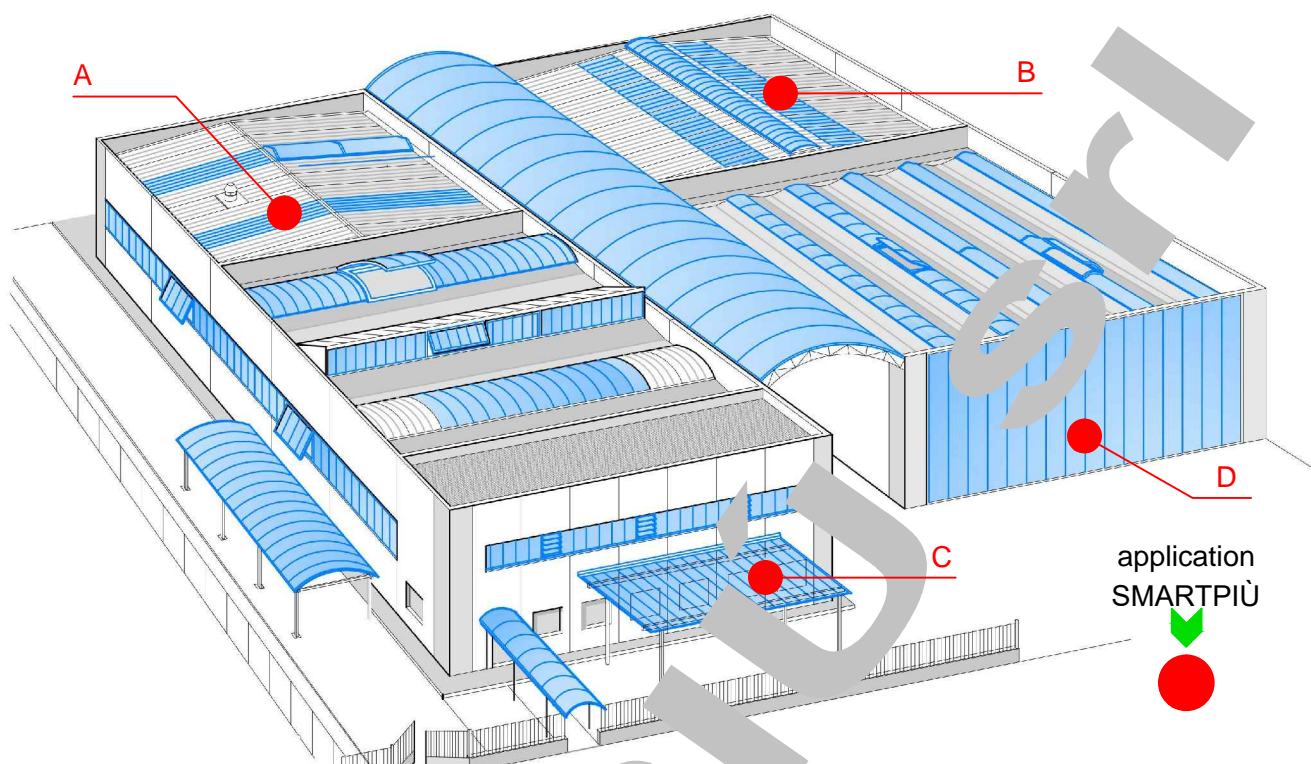
12



12. THE POLYPIÙ' PRODUCTS ARE COVERED
BY A 10-YEAR WARRANTY PLEASE CHECK
THE TERMS OF OUR WARRANTY FOR MORE
DETAILS.

PLEASE CONTACT OUR TECHNICAL DEPT.
FOR MORE DETAILS ON THE CERTIFICATIONS.

APPLICATIONS SMARTPIÙ

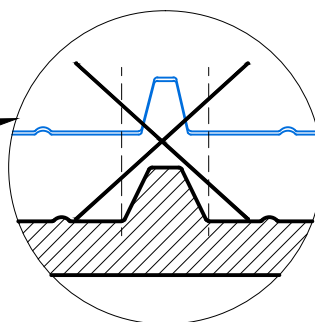
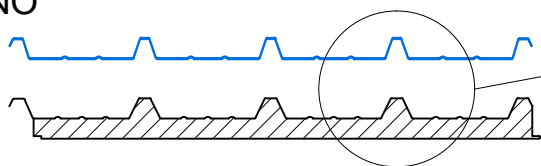


- A SKYLIGHT FROM THE RIDGE TO THE GUTTER
- B HORIZONTAL SKYLIGHT
- C CANOPY
- D VERTICAL GLAZING

SMARTPIÙ FITTING GUIDE

INSTRUCTION FOR A CORRECT SMARTPIÙ-METAL SHEET OVERLAPPING CORRUGATED SHEET

NO

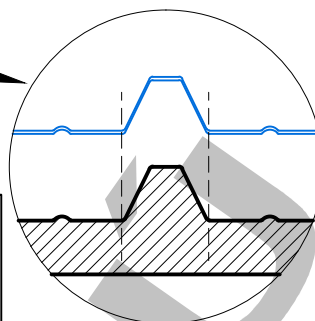
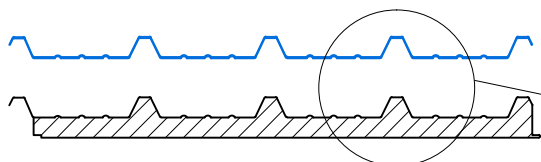


NO

DO NOT STRAIN THE PROFILE

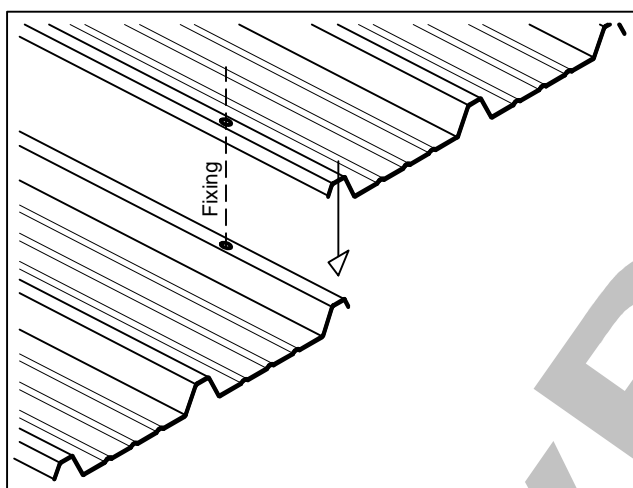
SHOULD THE SHEET PROFILE NOT FIT WITH THE METAL SHEET/SANDWICH PANEL PROFILE, DO NOT STRAIN THE SMARTPIÙ SHEET

YES



YES

SMARTPIÙ METAL SHEET
PROFILE = OR SANDWICH
PANEL PROFILE

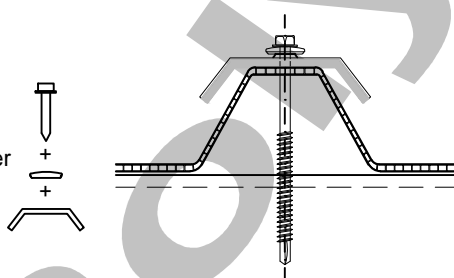


OVERLAPPING:
SHEET OVERLAPPING ON THE BUILDING SITE.
DO NOT STRAIN THE OVERLAPPING TO AVOID
TENSIONING ON THE SHEETS

FIXING TYPES – SMARTPIÙ – “GRECA” Profile:

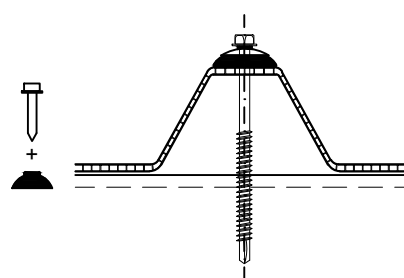
CAP FIXING

- Screw
- Small washer
- Cap



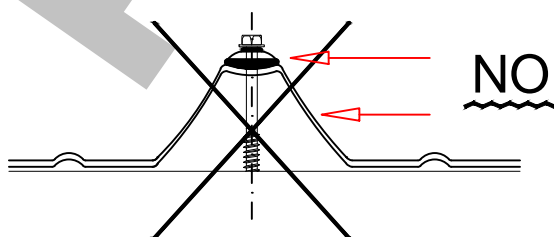
BAZ FIXING

- Screw
- BAZ washer

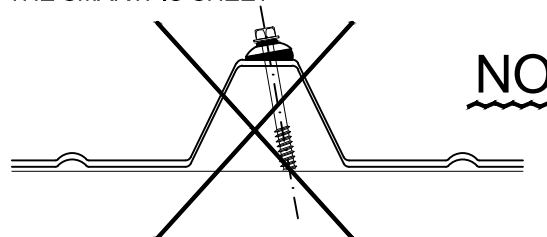


FIXING ON THE BUILDING SITE:

AVOID EXTREME SCREW TIGHTENING SO AS
TO NOT DAMAGE THE SHEET ON THE FIXING

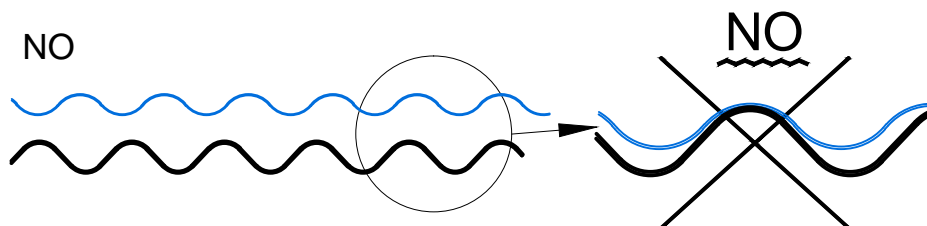


THE FIXING MUST BE REALIZED PERPENDICULARLY
TO THE SMARTPIÙ SHEET



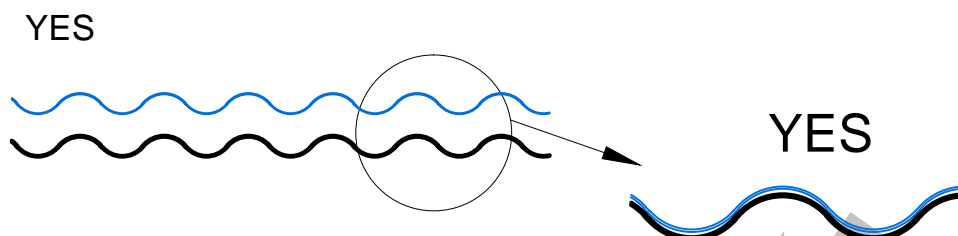
SMARTPIÙ FITTING GUIDE

INSTRUCTION FOR A CORRECT SMARTPIÙ-METAL SHEET OVERLAPPING **CORRUGATED SHEET: Onda 76/18 and Onda 146/48**



DO NOT STRAIN THE PROFILE

IN CASE THE SHEET PROFILE SHOULD NOT FIT WITH THE METAL SHEET/SANDWICH PANEL PROFILE, DO NOT STRAIN THE SMARTPIÙ SHEET



SMARTPIÙ PROFILE = METAL SHEET OR SANDWICH PANEL PROFILE

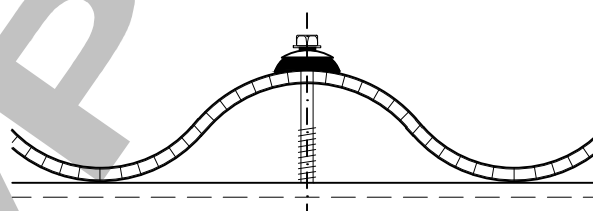
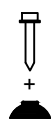
OVERLAPPING:
SHEETS OVERLAPPING ON THE BUILDING SITE.
DO NOT STRAIN THE OVERLAPPING TO AVOID TENSIONING ON THE SHEETS

FIXING TYPES – SMARTPIÙ – “ONDA” Profile

STANDARD FIXING

BAZ FIXING:

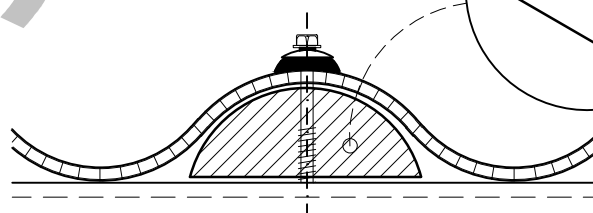
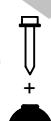
- Screw
- BAZ washer



FIXING WITH EAVES FILLER

BAZ FIXING:

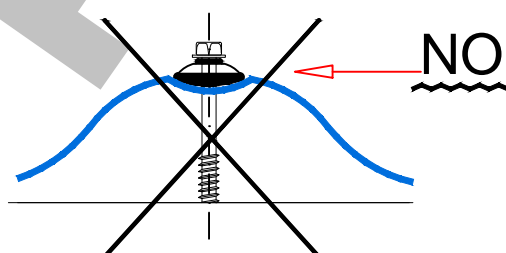
- Screw
- BAZ washer



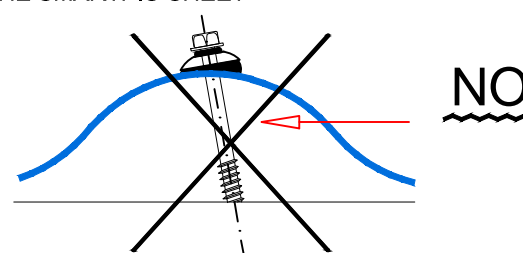
Eaves filler
(for fixing)

FIXING ON THE BUILDING SITE

AVOID EXTREME SCREW TIGHTENING SO AS TO NOT DAMAGE THE SHEET ON THE FIXING



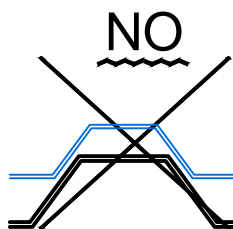
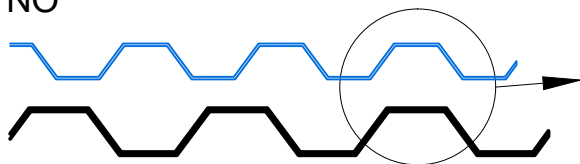
THE FIXING MUST BE REALIZED PERPENDICULARLY TO THE SMARTPIÙ SHEET



SMARTPIÙ FITTING GUIDE

INSTRUCTION FOR AN EXACT SMARTPIÙ-METAL SHEET OVERLAPPING *MULTIWAVE GRECA SHEET*

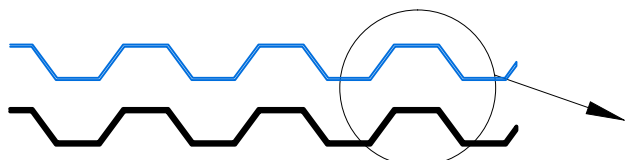
NO



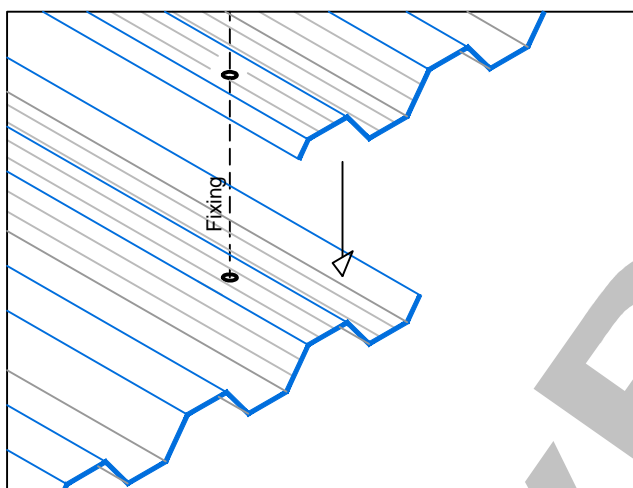
DO NOT STRAIN THE PROFILE

IN CASE THE SHEET PROFILE SHOULD NOT FIT WITH THE METAL SHEET/SANDWICH PANEL PROFILE, DO NOT STRAIN THE SMARTPIÙ SHEET

YES



SMARTPIÙ PROFILE = METAL SHEET OR SANDWICH PANEL PROFILE



OVERLAPPING:
SHEETS OVERLAPPING ON THE BUILDING SITE.
DO NOT STRAIN THE OVERLAPPING TO AVOID TENSIONING ON THE SHEETS

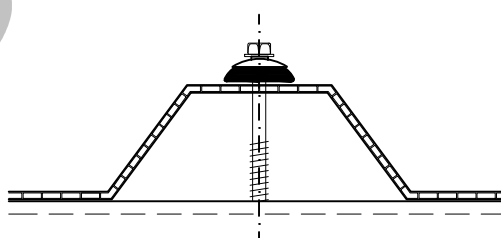
FIXING TYPES – SMARTPIÙ – MULTIWAVE GRECA SHEET

STANDARD
FIXING

BAZ FIXING:

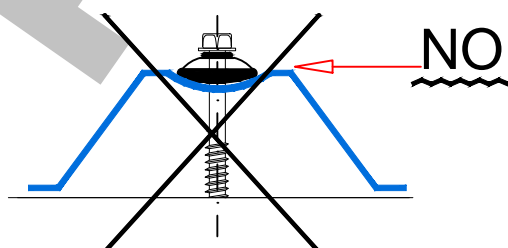
-Screw

-BAZ washer

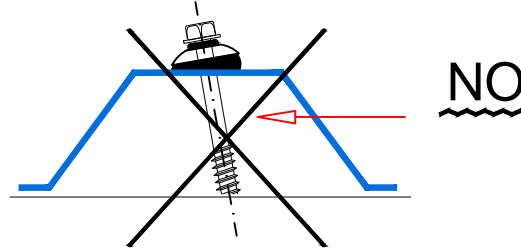


FIXING ON THE BUILDING SITE

AVOID EXTREME SCREW TIGHTENING SO AS TO NOT DAMAGE THE SHEET ON THE FIXING



THE FIXING MUST BE REALIZED PERPENDICULARLY TO THE SMARTPIÙ SHEET

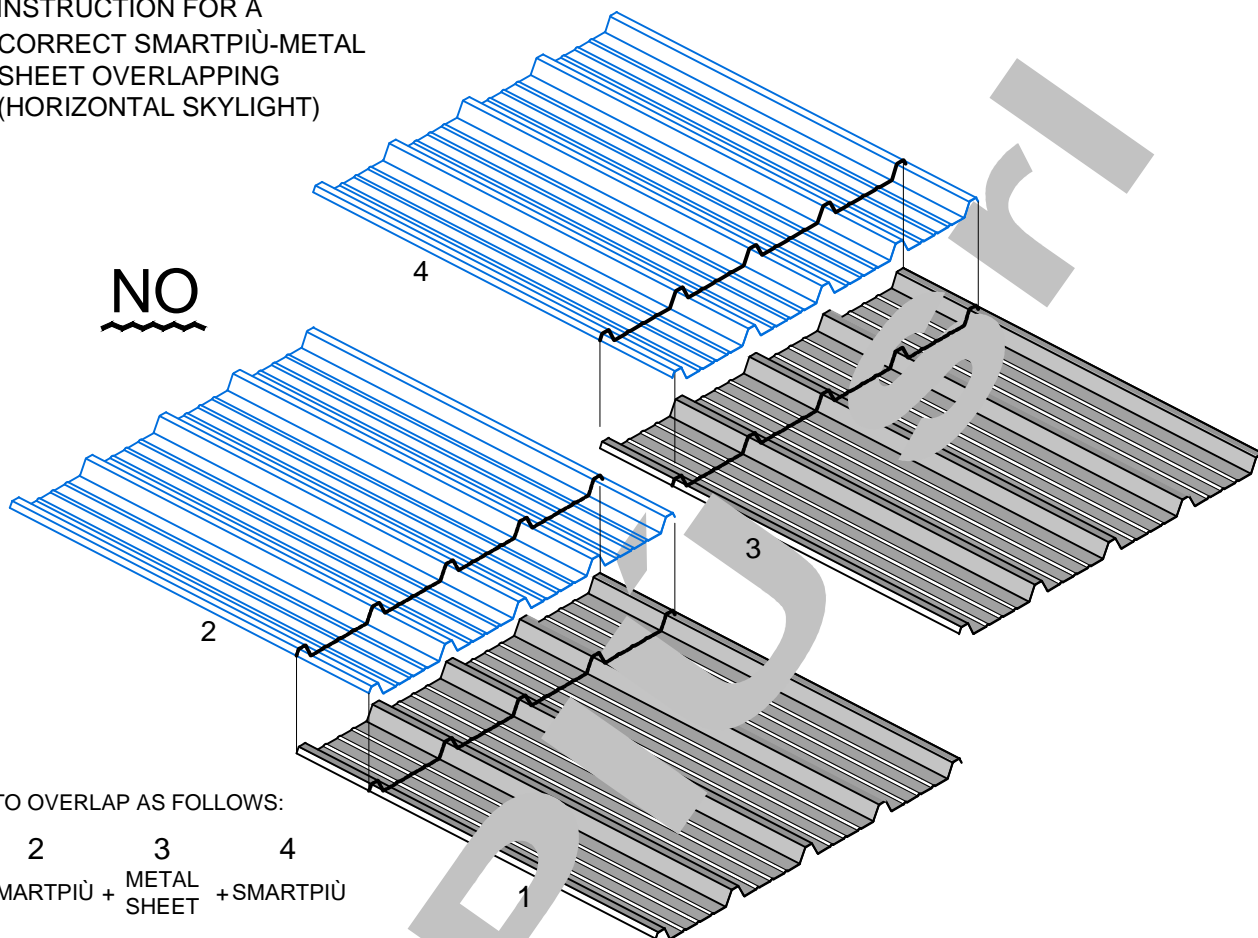


SMARTPIÙ FITTING GUIDE FOR COVERING

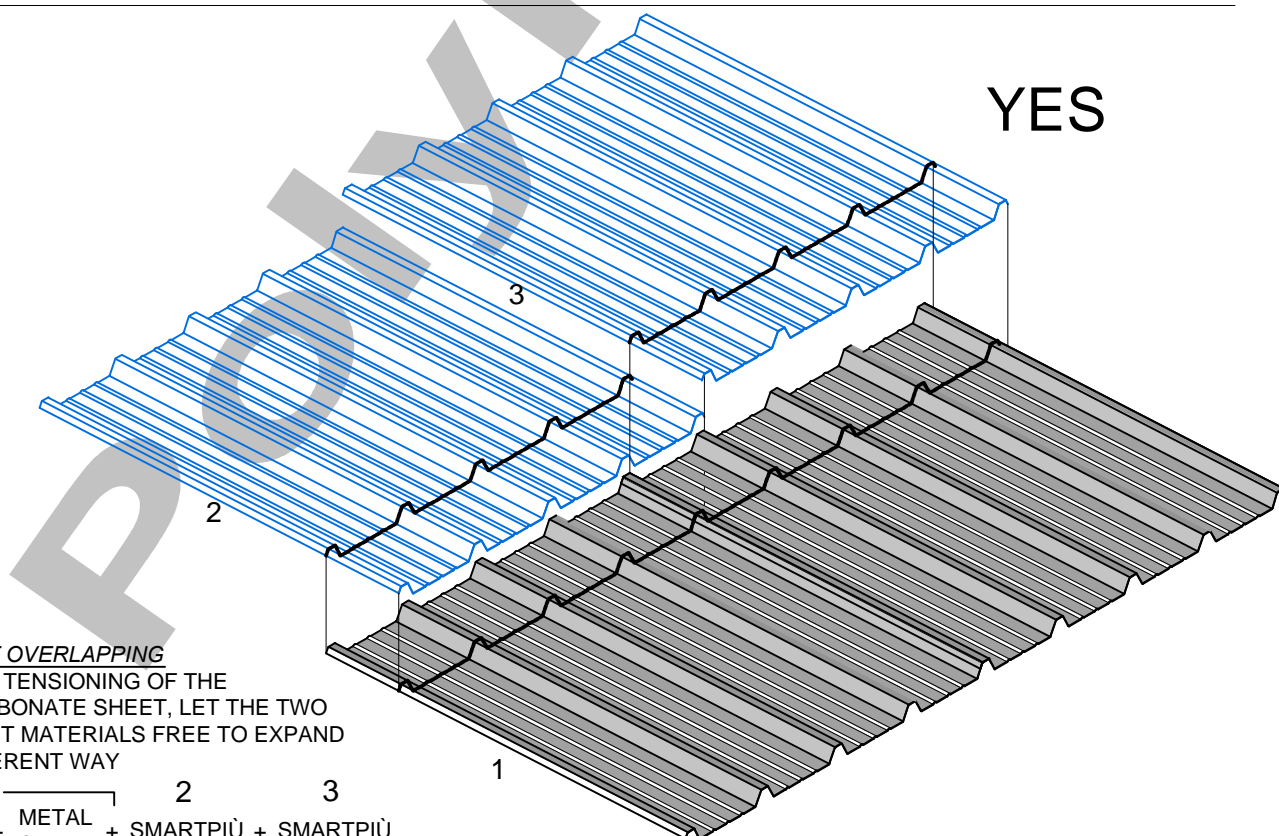
B

INSTRUCTION FOR A
CORRECT SMARTPIÙ-METAL
SHEET OVERLAPPING
(HORIZONTAL SKYLIGHT)

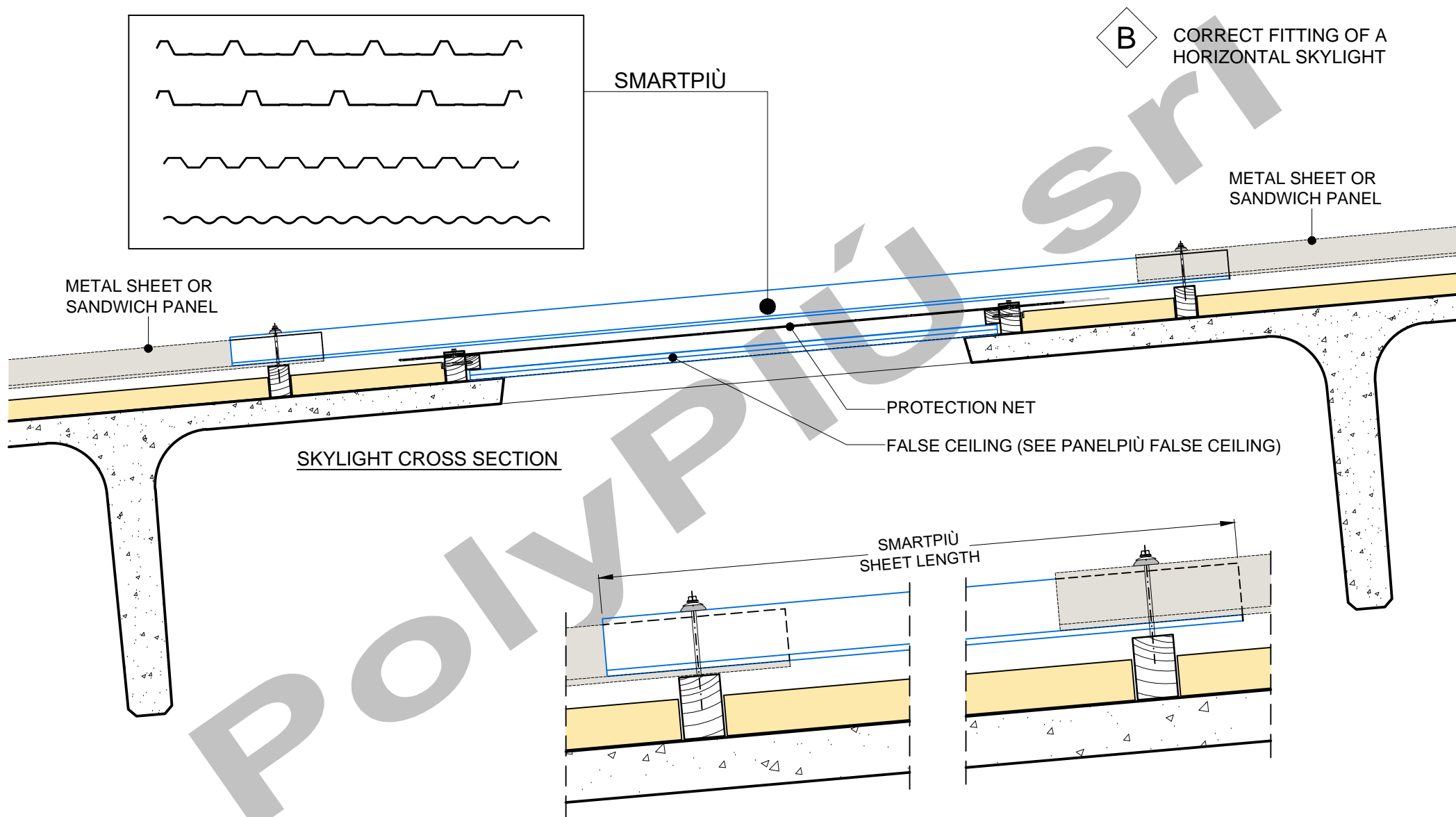
NO



YES

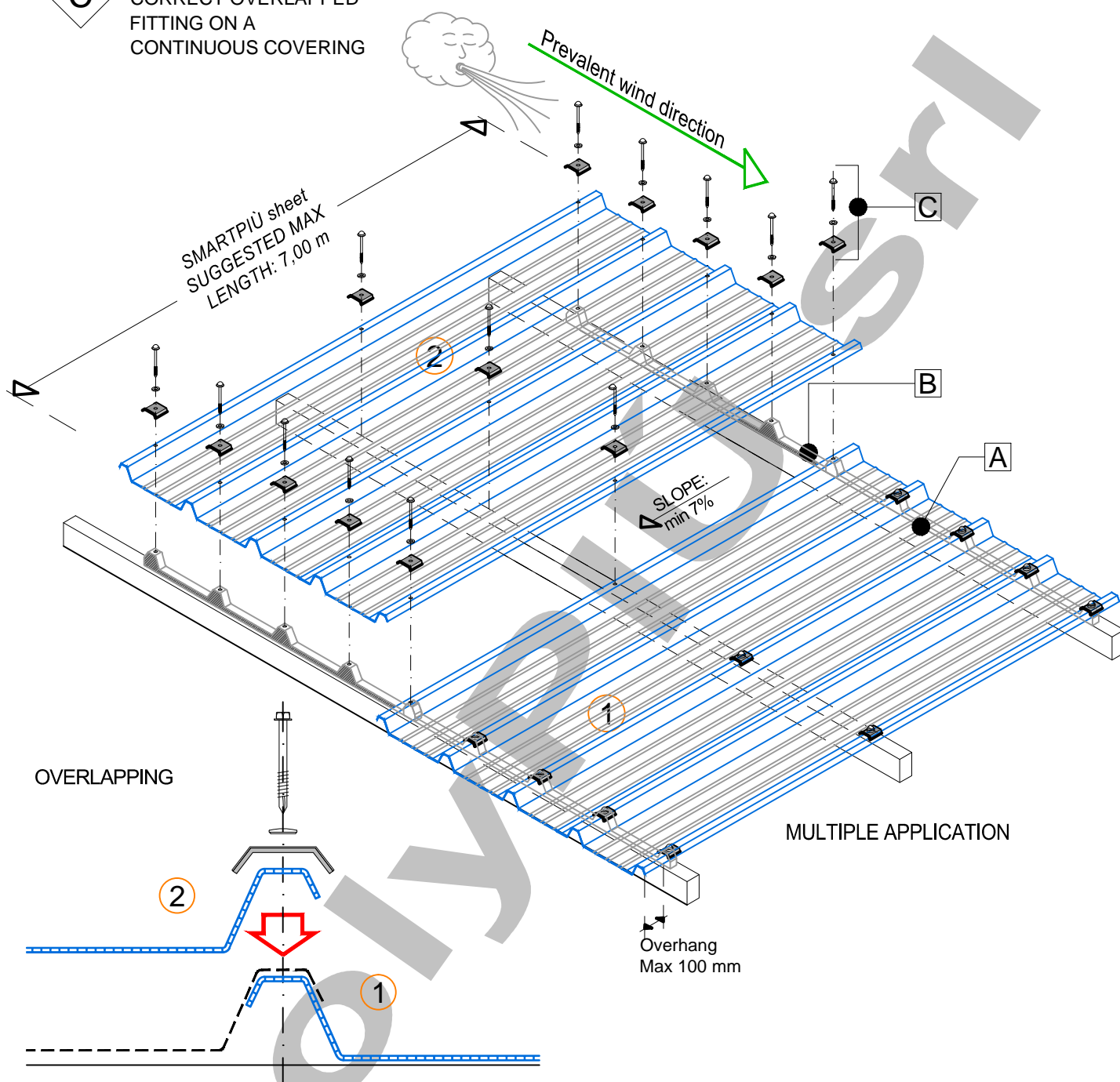


SMARTPIÙ FITTING GUIDE FOR SKYLIGHT



SMARTPIÙ FITTING GUIDE FOR COVERING

C INDICATION FOR A
CORRECT OVERLAPPED
FITTING ON A
CONTINUOUS COVERING



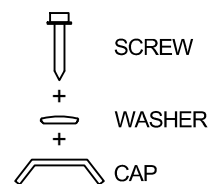
A SMARTPIÙ



B LOWER P.E. EAVES FILLER

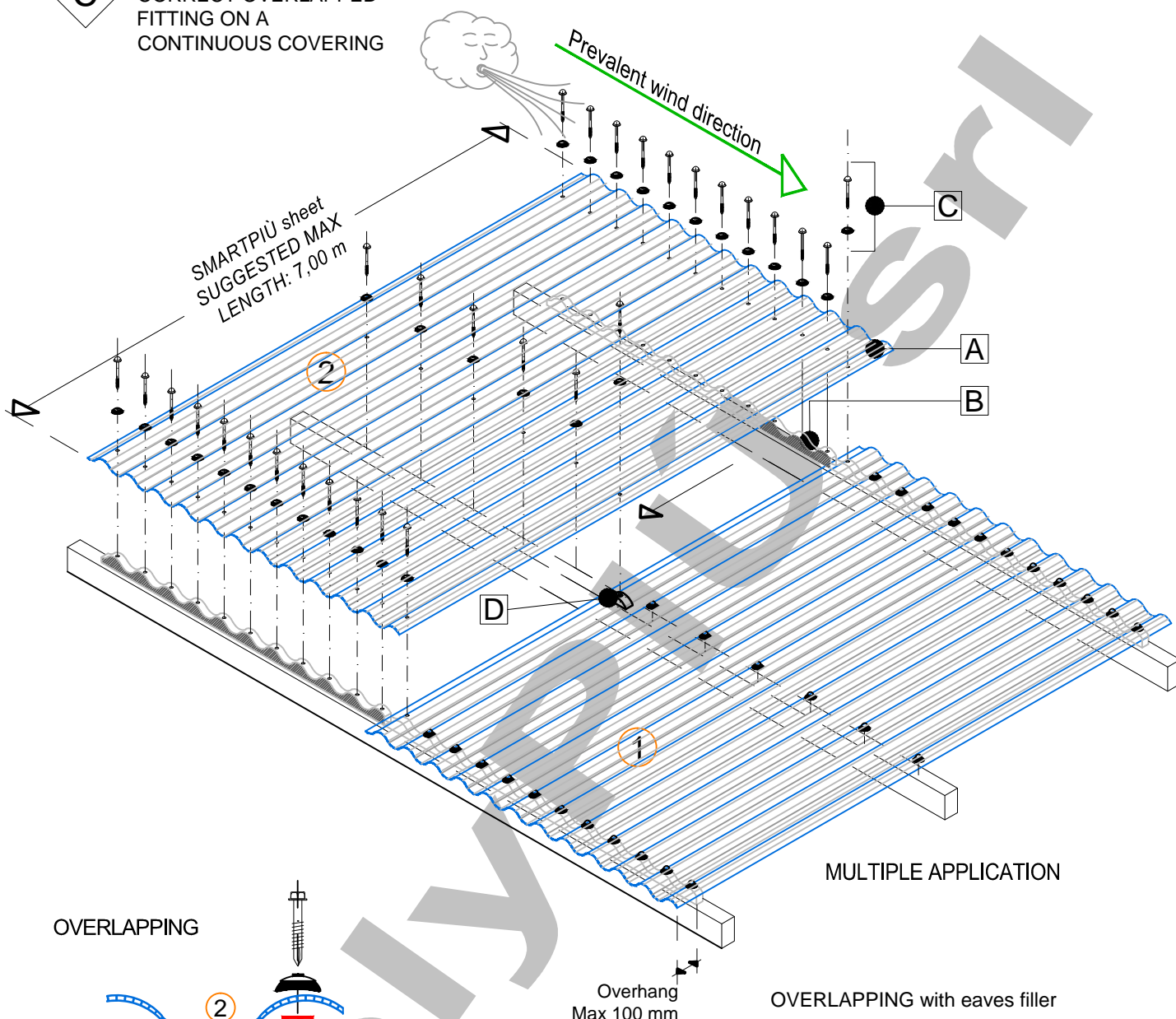


C FIXING GROUP

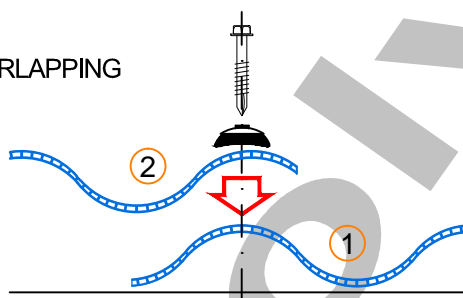


SMARTPIÙ FITTING GUIDE FOR COVERING

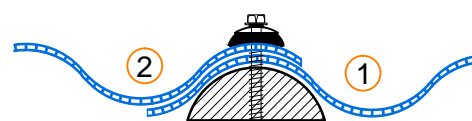
C INDICATION FOR A
CORRECT OVERLAPPED
FITTING ON A
CONTINUOUS COVERING



OVERLAPPING



OVERLAPPING with eaves filler



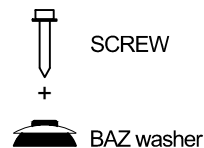
A SMARTPIÙ



B LOWER P.E. EAVES FILLER



C FIXING GROUP

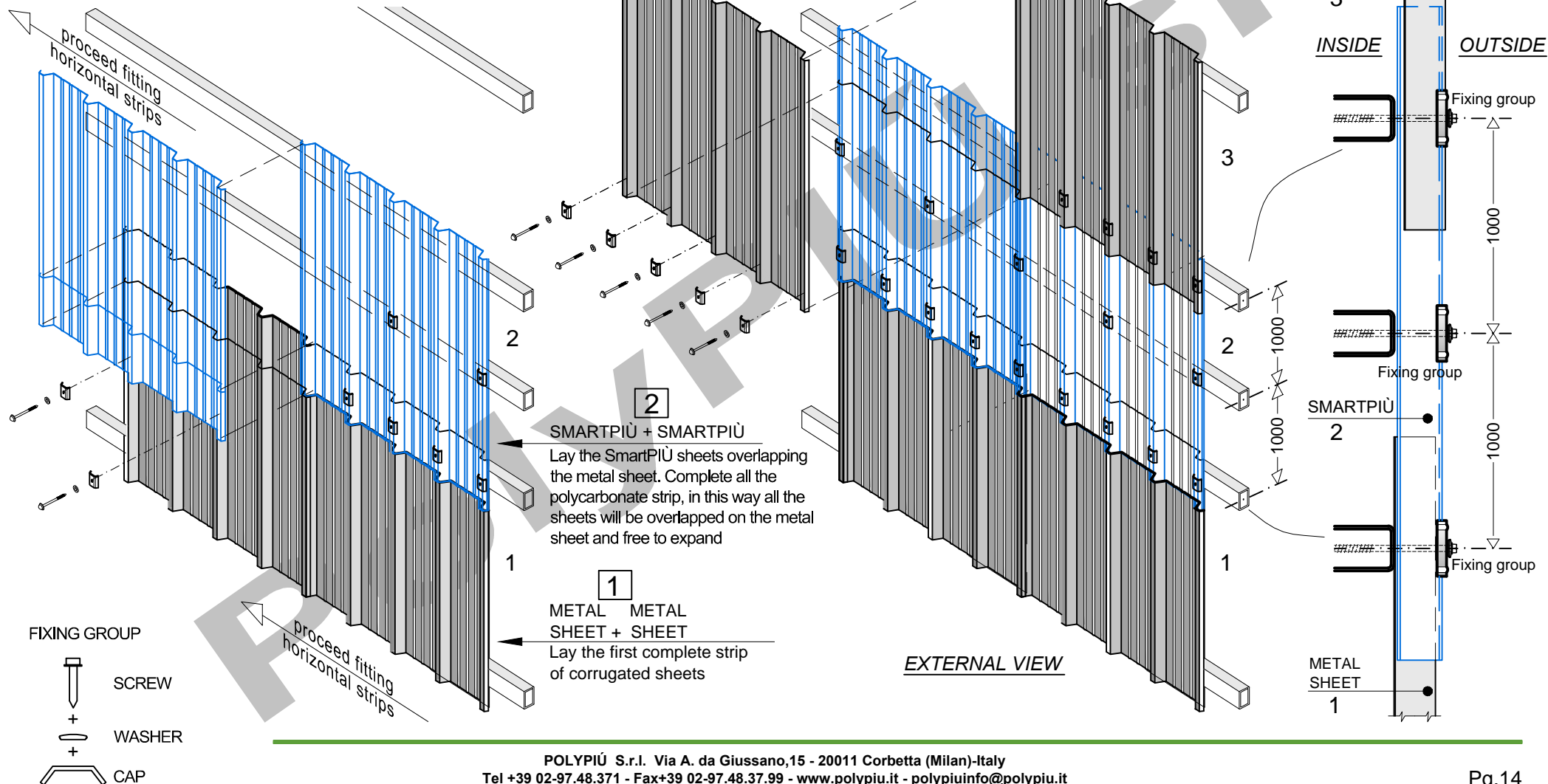


D Eaves filler
(for fixing)



SMARTPIÙ FITTING GUIDE FOR VERTICAL GLAZING

TO AVOID TENSIONING OF THE POLYCARBONATE SHEET, LET THE TWO DIFFERENT MATERIALS (iron and polycarbonate) FREE TO EXPAND IN A DIFFERENT WAY. Proceed completing horizontal strips, installing individually the first band of metal sheets (1), then lay up to the end the polycarbonate strip (2) and eventually the last band of metal sheet on the upper part (3).



NOTES

RESPONSIBILITY CLAUSE:

all technical information and recommendations are given in good faith and according our best knowledge. Nevertheless, not having any control over the end use of its materials, PolyPIÙ declines any responsibility for their application. The recommendations given do not relieve the Buyer to perform its own controls to determine the suitability of the materials to its own needs and to the regulations in force. PolyPIÙ reserves the right to amend products and specifications without prior notice.