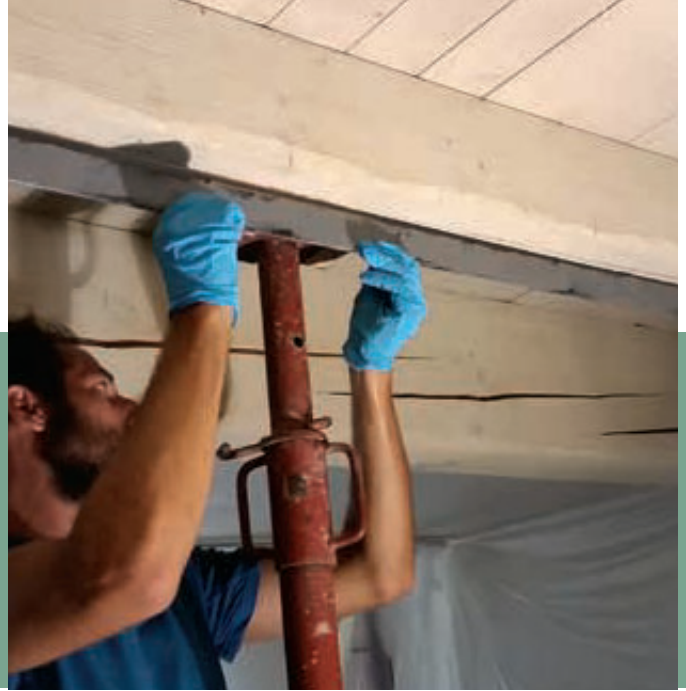


# C-LAM

fka Ruredil X Lam

**Pultruded carbon strip with improved adhesion for FRP structural strengthening system**



**C-LAM** is a strengthening system composed of pultruded carbon fiber strips to provide bending reinforcement on any type of support.

The reinforcement is to be carried out on site and, after having adequately prepared the support, requires the impregnation of the strips with the specific epoxy resin.

## THE SYSTEM IS MADE UP OF:



### ▶ C-LAM

Pultruded carbon strips available as follows:

- 50 S, 50 mm width, 25 m roll
- 100 S, 100 mm width, 25 m roll
- 120 S, 120 mm width, 50 m roll
- 50 H, 50 mm width, 50 m roll
- 100 H, 100 mm width, 25 m roll
- 120 H, 120 mm width, 25 m roll.



### ▶ C-RESIN LAM

Special epoxy resin with high adhesive power for the application of C-LAM fabric.

## PROPERTIES OF THE SYSTEM

- ▶ Reinforcement of deteriorated or undersized structures, advantageously replacing traditional techniques for strength, lightness, and ease of application;
- ▶ Increase in flexural strength, and therefore the operating load of the structure;
- ▶ Reduction of stresses and deformations of reinforced structural elements.



## TECHNICAL CHARACTERISTICS

**C-LAM S PROPERTIES (according to Guidelines) CLASS C150/2300**

**C-LAM H PROPERTIES (according to Guidelines) CLASS C200/1800**

TABLE OF VALUES	C-LAM S	C-LAM H
Elastic modulus of the fabric (referring to the net area of the fibers)	150 GPa	200 GPa
Resistance of the fabric (referring to the net area of the fibers)	2300 MPa	1800 MPa

GEOMETRIC AND PHYSICAL PROPERTIES	C-LAM
Thickness fabric	1,4 mm
Width	50 - 100 - 120 mm
Length	variable up to 50 m
Color	black
Density of the fiber	1,8 g/cm <sup>3</sup>
Density of the matrix	1,2 g/cm <sup>3</sup>
Fiber content (by volume)	68%
Fiber content (by weight)	76%
Pultrusion resin glass transition temperature	+120°C
Bonding resin glass transition temperature	+63°C
Limit temperature, minimum and maximum, of use	-10/+48 °C
Application temperatures	+5/+40 °C
Reaction to fire [Euroclass]	E

MECHANICAL PROPERTIES	C-LAM S	C-LAM H
Tensile modulus (GPa)	171,00	206,00
Tensile strength - average value (MPa)	2.898	2.213
Tensile strength - characteristic value (MPa)	2.792	2.013
Tensile fracture deformation (%)	1,69	1,07

SPECIFICATIONS FOR THE SUPPLY	
Package	Various sizes (see price list)
Consumption	According to the application length

PROPERTIES OF THE ADHESIVE	C-RESIN LAM
Catalysis ratio (A:B)	4:1
Specific weight (A + B)	1,55 - 1,75 kg/liters
Workability (EN ISO 9514) at 23°C	40 - 60 minutes
Compressive strength (ASTM D965)	≥ 60 MPa
Adherence/bond strength (EN 12188)	≥ 14 MPa
Reaction to fire (EN 13501-1)	Euroclass E
Glass transition temperature (DSC ISO 11357-2)	+63 °C

SPECIFICATIONS FOR THE SUPPLY	
Resin package	Buckets of 4 + 1 kg
Consumption	Approx. 0.35 kg/m for 50 mm fabric. Approx. 0.80 kg/m for 100 mm fabric. Approx. 1.00 kg/m for 120 mm fabric. (the yield is also a function of the possible crossing of the fabric and may therefore increase)