

# **Laminates CFL**

# Prefabricated carbon fibre plates

Technical data of SINIT Laminates CFL

Type: Laminates CFL 150/2000 Type: Laminates CFL 200/2000

**Surface-applied laminates** 

Laminate type	Cross section	Tensile strength at elongation 0.6%	Tensile strength at elongation 0.8%
150/2000 Modulus of elasticity: >165'000 N/mm <sup>2</sup> (average)	[mm <sup>2</sup> ]	Theoretical tensile strength for the design: 1000 N/mm <sup>2</sup>	Theoretical tensile strength for the design: 1300 N/mm <sup>2</sup>
50 / 1.2	60	60.0 kN	78.0 kN
50 / 1.4	70	70.0 kN	91.0 kN
60 / 1.4	84	84.0 kN	109.2 kN
80 / 1.2	96	96.0 kN	124.8 kN
80 / 1.4	112	112.0 kN	145.6 kN
90 / 1.4	126	126.0 kN	163.8 kN
100 / 1.2	120	120.0 kN	156.0 kN
100 / 1.4	140	140.0 kN	182.0 kN
120 / 1.2	144	144.0 kN	187.2 kN
120 / 1.4	168	168.0 kN	218.4 kN
200/2000 Modulus of elasticity: >210'000 N/mm <sup>2</sup> (average)	[mm <sup>2</sup> ]	Theoretical tensile strength for the design: 1250 N/mm <sup>2</sup>	Theoretical tensile strength for the design: 1650 N/mm <sup>2</sup>
50 / 1.4	70	87.5 kN	115.5 kN
60 / 1.4	84	105.0 kN	138.6 kN
80 / 1.4	112	140.0 kN	184.8 kN
90 / 1.4	126	157.5 kN	207.9 kN
100 / 1.4	140	175.0 kN	231.0 kN
120 / 1.4	168	210.0 kN	277.2 kN

**Slot-applied laminates** 

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Laminate type	Cross section	Recommended tensile strength for the design	
150/2000 Modulus of elasticity: >165 kN/mm <sup>2</sup> (average)	[mm <sup>2</sup> ]	Recommended tensile strength for the design:  1650 N/mm <sup>2</sup>	
10 / 1.4	14	23.1 kN	
20 / 1.4 *	28	46.2 kN	
200/2000 Modulus of elasticity: >210 kN/mm <sup>2</sup> (average)	[mm <sup>2</sup> ]	m <sup>2</sup> ] Recommended tensile strength for the design: 2050 N/mm <sup>2</sup>	
10 / 1.4	14	28.7 kN	
20 / 1.4 *	28	57.4 kN	

<sup>\*)</sup> upon request, only larger quantities.





## Delivery

Rolls of 100 m, 150 m or cut to size. An unwinding reel is available upon request. Special dimensions upon request

# Application

SINIT Laminates CFL are used as externally bonded reinforcement for flexural strengthening of load-bearing elements made of RC-structures, wood and natural stone.

## • Application areas

Retrofitting of RC-structures to new requirements:

- Modifications in the static system
- Increase of working load

Enhancement of the performance capability:

- Reduction of deflection
- Absorbing of vibrations
- Seismic retrofitting

Repairs of defective RC-structures:

- Damage caused by corrosion
- Accidents, e.g. fire, impact, explosion, etc.
- Planning and execution errors

## Advantages

- Low dead weight
- Low application thickness
- Economical application without lifting gear or placing and support devices
- Very high strength
- High modulus of elasticity
- Excellent fatigue behaviour
- Corrosion resistance
- Can be coated with paints
- Special CFL laminates, e.g. with a modulus of elasticity of 300,000 N/mm<sup>2</sup>, are available upon request. However, the application of these high modulus laminates is not economical as the utilisation of their tensile strength is only marginal.



