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Clever Reinforcement Company AG

S&P Laminates CFK

Prefabricated carbon fibre plates 07/07

- **Technical data of S&P Laminates CFK**
  Type: **S&P Laminates CFK 150 / 2000**
  Type: **S&P Laminates CFK 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/mm² (average)	**[mm²]**	Theoretical tensile strength for the design: **1000 N/mm²**	Theoretical tensile strength for the design: **1300 N/mm²**
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/mm² (average)	**[mm²]**	Theoretical tensile strength for the design: **1250 N/mm²**	Theoretical tensile strength for the design: **1650 N/mm²**
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:

Laminate type	**Cross section**	Recommended tensile strength for the design:
150/2000 Modulus of elasticity: >165 kN/mm² (average)	**[mm²]**	Recommended tensile strength for the design: **1650 N/mm²**
10 / 1.4	14	23.1 kN
20 / 1.4 *	28	46.2 kN
200/2000 Modulus of elasticity: >210 kN/mm² (average)	**[mm²]**	Recommended tensile strength for the design: **2050 N/mm²**
10 / 1.4 *	14	28.7 kN
20 / 1.4 *	28	57.4 kN

*) 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**
  S&P Laminates CFK 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 to 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 CFK laminates, e.g. with a modulus of elasticity of 300,000 N/mm^2, 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.