

Spiral Anchor System for Masonry Reconstruction

System components and technical properties

Ruberstein® Spiral Anchors



- Austenitic stainless steel (1.4301 or 1.4401) ⇒ anticorrosive
- Rolled and twisted from small round steel ⇒ best bonding properties
- Spiral-shaped surface with two threads ⇒ uniform application of force
- Small cross-sectional area ⇒ low weight; good storage and transport properties
- High tensile strength ⇒ high tension resistance in spite of small section
- Relatively low modulus of elasticity ⇒ elastic behaviour like a strong spring

Nominal diameter	Ø 6 mm	Ø 8 mm	Ø 10 mm	Ø 12 mm
Pitch / number of threads	25 (30) ¹ mm / 2	30 (40) ¹ mm / 2	50 (50) ¹ mm / 2	60 (60) ¹ mm / 2
Mass m	0,075 kg/m	0,085 kg/m	0,111 kg/m	0,173 kg/m
Cross-sectional area A _s	7,4 mm ²	10 mm ²	13 mm ²	27,5 mm ²
Imaginary diameter d _i	3,19 mm	3,57 mm	4,07 mm	5,92 mm
Imaginary circumference u _i	10,02 mm	11,22 mm	12,79 mm	18,60 mm
Max. admissible tensile force F _z / yield strength F _s	8,6 kN / 7,6 kN	11,0 kN / 10,13 kN	15,1 kN / 12,4 kN	24,3 kN / 19,7 kN
Elasticity module	107.000 N/mm ²	114.000 N/mm ²	169.000 N/mm ²	146.000 N/mm ²

Specific material values for spiral anchor – see also Imperial College London, Testing Center Lucideon Ltd (Stoke on Trent, UK), MPA Darmstadt, IFBT Leipzig, DIBt Berlin, ITB Katowice
The values in brackets apply to the spiral anchor types S and SS.

Spiral anchor type	Supply lengths
Type Standard (without tip)	1 m pieces or 10 m roll
Type S (tip on one side), type SS (tip on both sides)	100 to 500 mm (increments of 10 mm)

other diameters and lengths available on request

Ruberstein® Anchor grout



- Hydraulically setting mineral grouting ⇒ ideal for the preservation of monuments
- Two components ⇒ constant properties
- Thixotropic ⇒ easy to apply, no dripping, pumpable
- Low-shrinkage ⇒ very good bonding properties
- Optimised strength, high initial strength ⇒ adjusted to application and operating principle

Compression strength β _{DR}	27.8 N/mm ² resp. 35.0 N/mm ² (anchor grout F)
Bending tensile strength β _{BZ}	5.44 N/mm ²
Elasticity module E _B	12,878 N/mm ²
Bond shear strength β _{HR}	0.86 N/mm ² (acc. to DIN 18555-5, reference stone - KS 12-2,0 NF; humidity Ø 3.8 M.-%)
Frost resistance	proven according to DIN 52104, procedure B, 25 frost/thaw cycles

Anchor grout material properties – see investigation report U 1.3/01 – 069 dated 18 Oct 2001 of the MFPA Leipzig and test report PB I/00 – 692 dated 1 Feb 2001 and test report PB 1.1/07-095 dated 16 July 2007 of the MFPA Leipzig

- Variants: Standard, high-strength (F), highly sulphate resistant (R)
- Delivery form: Bucket (12 kg) with two containers each of liquid and dry component
- Yield: 6 l (2 x 3 l) fresh grouting in total

