

LOAD-BEARING CAPACITIES APPROXIMATE

Indicative values for compression and uplift, depending on the screw model and the ground conditions.



NO
CONCRETE



NO
EXCAVATION

HOW TO USE THIS DOCUMENT

A pre-selection tool, not for design

The catalogue organises the available ranges for an initial technical discussion. The final selection is confirmed for the exact product and site.

01

Identify the ground scenario

S1 is the conservative scenario for medium ground. S2 describes good ground, if the layer is confirmed locally.

02

Choose the family for the initial discussion

Compare the model and depth with the compression and uplift ranges. Do not turn the range into a design value.

03

Confirm the solution for the project

The final capacity results from the geotechnical documentation, the design, the installation parameters and, when required, static testing.

This edition tabulates

- centred vertical compression;
- uplift, presented separately;
- values for a single screw.

These are not final design values

- not characteristic values;
- not design values;
- not guaranteed capacities.

INTUITIVE EQUIVALENCE

10 kN 1 tonne-force

The equivalence is indicative. This edition presents compression and uplift. Lateral loads and moments are verified separately for the project.

GROUND SCENARIOS

There is no "typical ground" in Romania

Loess, clays, sands, gravels, fills and local combinations can lead to very different results. The catalogue uses scenarios for pre-selection, not a single national value.

IMPORTANT The ranges on the following pages are for the initial discussion. They do not replace the geotechnical study, design or on-site tests.

S0**Problematic ground**

Uncontrolled fills, topsoil, soft clay, organic soil or loose/saturated sand. Investigations, additional depth, local improvement or testing are required.

S1**Medium ground**

Stiff clay or clayey silt, medium-dense sand. This is the conservative scenario used for the lower range of the tables. It frequently represents ordinary situations, but must be confirmed locally.

S2**Good ground**

Hard clay, dense sand or a dense sand-gravel mixture. It can offer higher values if the screw reaches the good layer and installation is done without damaging the ground or the product.

S3**Very hard ground / obstacles**

Very hard clay, coarse gravel, boulders, concrete or rock. The capacity can be high, but installation may become impossible or may require pre-drilling, repositioning and verification.

Assumptions used for the indicative ranges

- centred vertical load, on a single screw;
- correct installation, without buckling, damage or large deviation from vertical;
- topsoil and weak fill are not considered a load-bearing layer;
- no group effects, eccentricities, freeze-thaw, erosion or flowing water;
- thread geometry, depth and installation torque are compatible with the ground.

PRELIMINARY SELECTION

M Series - indicative vertical capacities per screw

The ranges are expressed in kN and refer to centred vertical loading. S1 and S2 must be confirmed locally.

Variant	S1 compression	S1 uplift	S2 compression	S2 uplift	Remarks
M Ø76 × 1,200	8-14	4-8	12-20	6-12	standard / light project
M Ø76 × 1,500	12-20	6-12	18-28	10-17	platforms and light structures
M Ø76 × 2,000	18-30	10-18	27-42	16-26	increased depth and stability
M Ø89 × 1,500	16-26	9-16	24-36	14-23	modular, containers, LSF
M Ø89 × 2,000	24-38	14-24	35-52	22-34	structures and higher loads
M Ø114 × 1,500	20-34	12-22	30-48	18-30	custom configuration
M Ø114 × 2,000	32-50	20-32	45-65	28-42	heavy-duty
M Ø140 × 2,000	42-65	25-42	60-90	38-60	heavy-duty / special project

How to read the range

Example: 24-38 kN is the indicative range for compression in scenario S1, on a single screw and under the assumptions stated in the document.

DO NOT USE THESE RANGES FOR DESIGN OR PERMITTING.

MODULAR SYSTEMS

Indicative capacity by total depth

V76 S1 COMPRESSION / UPLIFT 20-35 / 12-22 kN S2 COMPRESSION / UPLIFT 30-50 / 20-32 kN	V89 S1 COMPRESSION / UPLIFT 28-45 / 18-30 kN S2 COMPRESSION / UPLIFT 40-65 / 26-44 kN	V114 S1 COMPRESSION / UPLIFT 40-65 / 25-45 kN S2 COMPRESSION / UPLIFT 60-90 / 40-60 kN
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Total depth: 3.0 m

The values do not transfer automatically to other lengths, other extensions or other installation conditions. The tip must work in the chosen layer, and the configuration must be verified for the project.

Summary table

Family	Total depth	S1 comp./uplift	S2 comp./uplift
V76	3.0 m	20-35 / 12-22 kN	30-50 / 20-32 kN
V89	3.0 m	28-45 / 18-30 kN	40-65 / 26-44 kN
V114	3.0 m	40-65 / 25-45 kN	60-90 / 40-60 kN

10 kN 1 tonne-force

This equivalence only helps to understand the order of magnitude and does not turn the ranges into permissible loads.

CONFIRMING THE SOLUTION

The final capacity is established for the exact site

The catalogue ranges are only the start of the discussion. Design requires correlating the ground, structure, product and installation.

1

Geotechnical documentation

Confirms the stratification, water, fills and the depth of the relevant layer.

2

Design

Establishes the loads, the number of points, the spacing and the required checks.

3

Product and configuration

Chooses the diameter, length, thread, flange and the connection to the structure.

4

Installation parameters

Tracks access, verticality, depth and the parameters available from installation.

5

Static testing, when required

Confirms the behaviour on site for compression and/or uplift.

DO NOT USE THE RANGES FOR DESIGN OR PERMITTING

Reference principles mentioned in the document: NP 123-2022 and SR EN 1997-1.

Send us the project for a technical pre-selection

Plan, dimensions, location, structural system and the available information about the ground.

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