



SOLUTIONS FOR ACCESS PLATFORMS

PLATFORM GUARDRAILS

GRATING

LOE CABLE LADDERS

CH-100 PREFABRICATED TRESTLE POSTS

STEPS

FENCING

BEARING FRAMEWORK OF THE CH PLATFORM

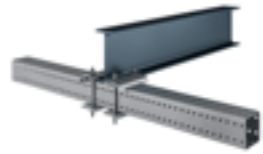
INSTALLATION SYSTEM APPLICATIONS



CONSTRUCTION VARIANTS OF THE CH SYSTEM

UTECH CH INSTALLATION SYSTEM ALLOWS IMPLEMENTING A WIDE VARIETY OF SOLUTIONS. STRUCTURES CAN BE INSTALLED ON VARIOUS BASE MATERIALS: METAL STRUCTURES, CONCRETE, AND ROOFING.

Examples of typical structures are shown below.



FASTENING TO THE STEEL STRUCTURE



INSTALLATION OF THE FRAME ON THE ROOF



FIXING THE FLAT FRAME TO A REINFORCED CONCRETE FLOOR



FASTENING OF THE FRAME WITH STRUTS TO THE REINFORCED CONCRETE SLAB



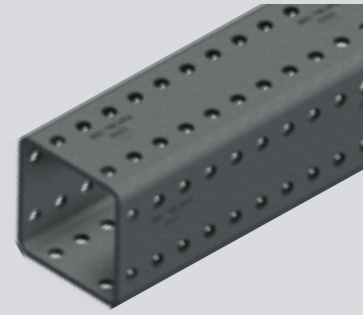
RACK WITH BRACKETS



T-PILLAR

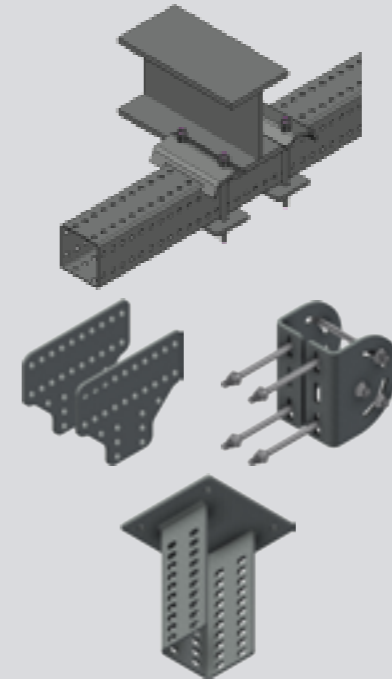
BASIC ELEMENTS

CH SYSTEM



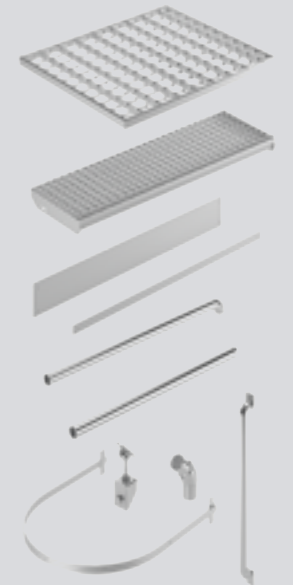
См раздел «CH system»

CH SYSTEM



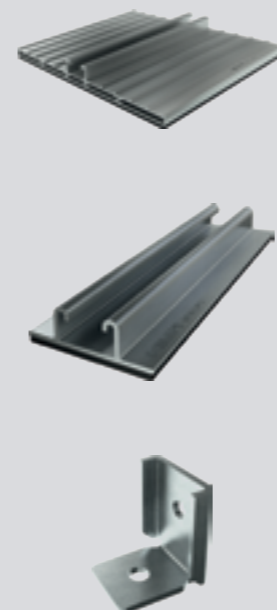
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LADDER AND PLATFORM ELEMENTS



Elements for access platforms

CH SYSTEM



See section «Supports for soft roofs»

CH SYSTEM



See section «Profiles»

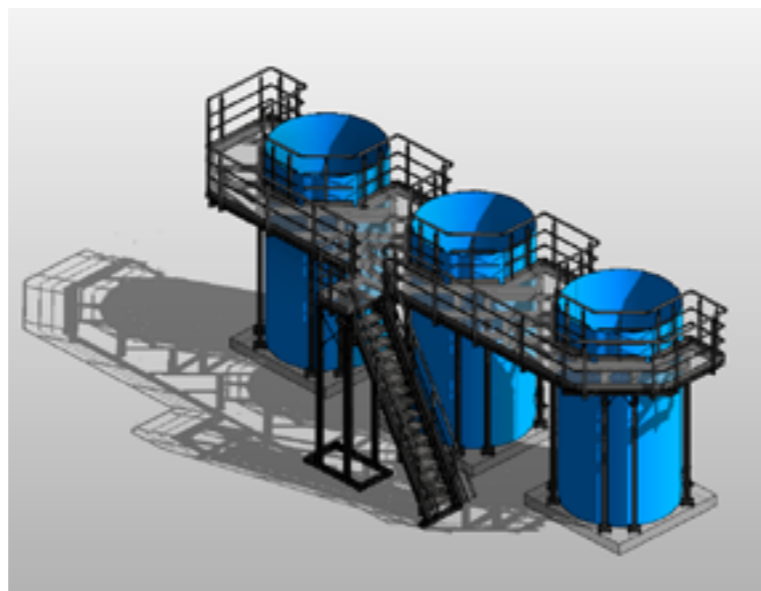
CONNECTING ELEMENTS



See section «Accessories»

ADVANTAGES

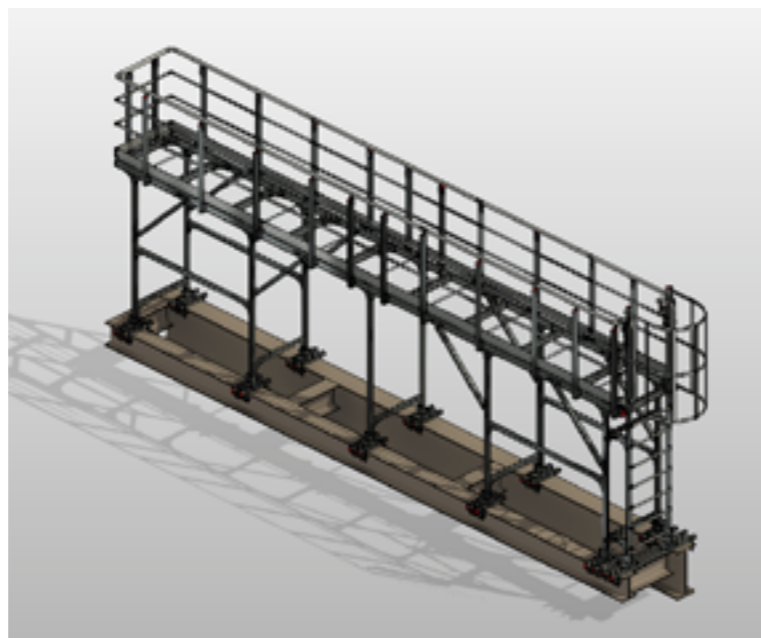
- Quick structure assembly without welding
- Split connections with bolts and self-tapping screws.
- UTECH engineers carry out calculations and designs in accordance with the European codes.
- Platforms can be of any complexity and for any loads
- Platforms can be installed on any base material: concrete, metal, and roofing.
- The design meets the basic requirements of GOST R ISO and industry standards: a closed-section railing profile without perforation, a guardrail for knees, and flanging.
- Certificate of Conformity No. ROSS RU.AD07. N01479



CORROSION PROTECTION

All elements are hot dip galvanized.

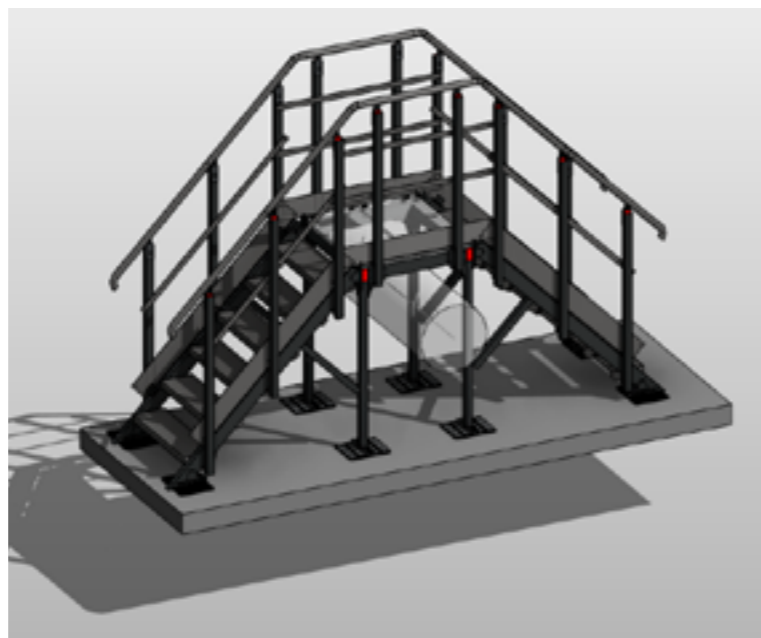
The coating thickness of the CH-100 profile and connectors is at least 55 microns, which allows to install platforms outdoors and in moderately aggressive conditions.



COMPLETE DELIVERY

UTECH offers a complete set of elements for access platforms, including grating, guardrails, and supporting beams.

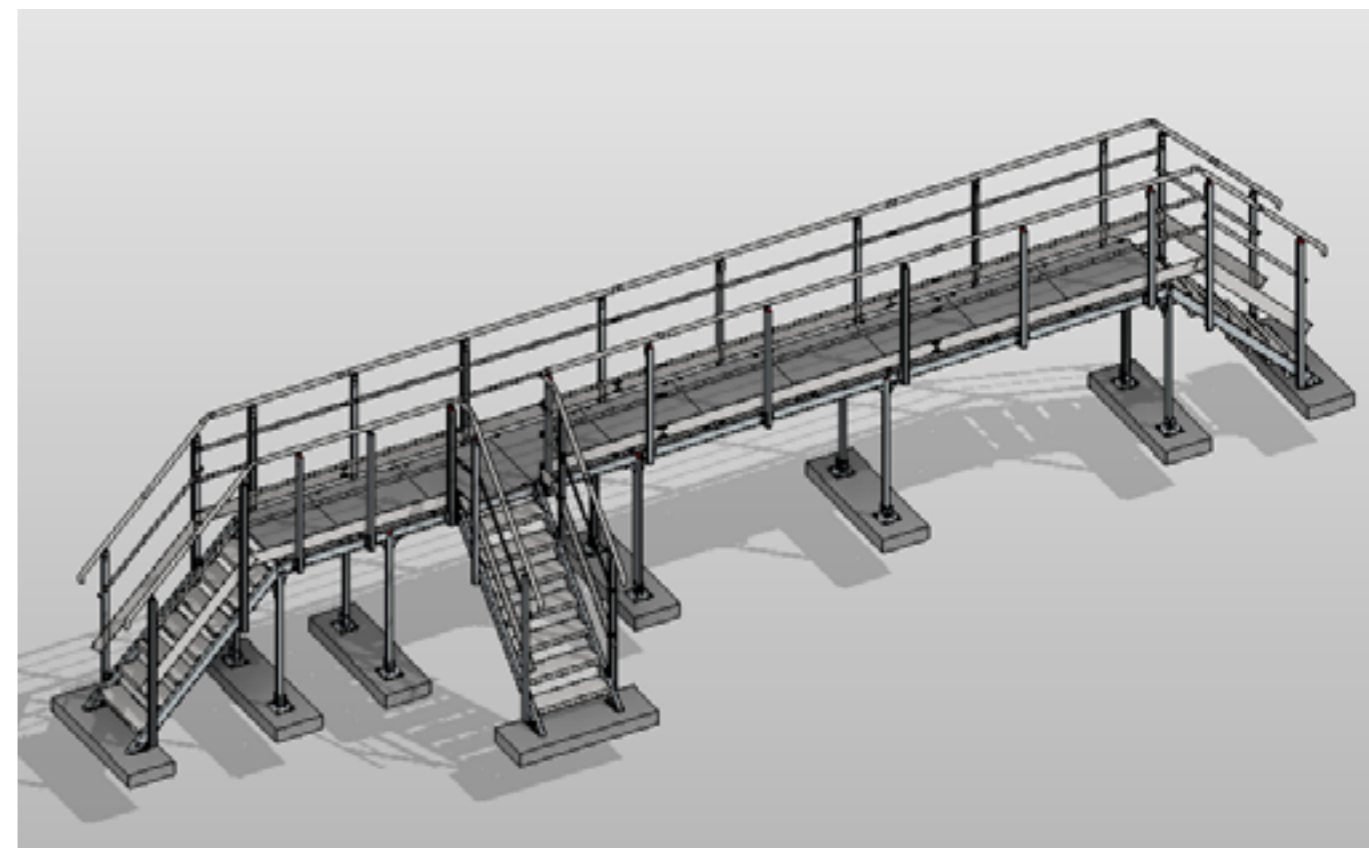
The guardrail design meets the basic requirements of GOST R ISO and industry standards: a closed-section railing profile without perforation, a guardrail for knees, and flanging.



ACCESS PLATFORMS REGULATORY DOCUMENTS

Access platforms are engineering structures designed to provide access for maintaining and repairing pipelines and equipment. The design should be carried out according to the current regulatory documentation.

Loads are calculated, cross sections are selected and structural elements checked for strength and stability according to local codes of practice. There are also many industry standards and regulations containing structural requirements for platforms, which also need to be taken into account when developing the project. UTECH engineers carry out calculations and designs according to local codes and regulations in your country.



GRATING

STEEL GRATING IS CHARACTERISED BY HIGH STRENGTH, DURABILITY, AND AESTHETIC APPEARANCE. IT IS WIDELY USED IN METALLURGY, CHEMICAL, OIL AND GAS, AND FOOD INDUSTRIES.

UTECH offers solutions for access platforms where grating is included in the complete delivery.

RECOMMENDATIONS FOR GRATING SELECTION

The choice of grating size depends on the following input data:

- area of application;
- loads;
- the surface coverage of the grating.

The selection of the grating size comes down to the determination of the mesh size (pitch of the bearing strip and bonding bar) and the size of the bearing strip as follows:

1. ACCORDING TO THE DESIGN BASIS:

- distributed or concentrated load;
- the span 'in the gap' between two support beams of the supporting structure; the permissible deflection of the grating at a given span.

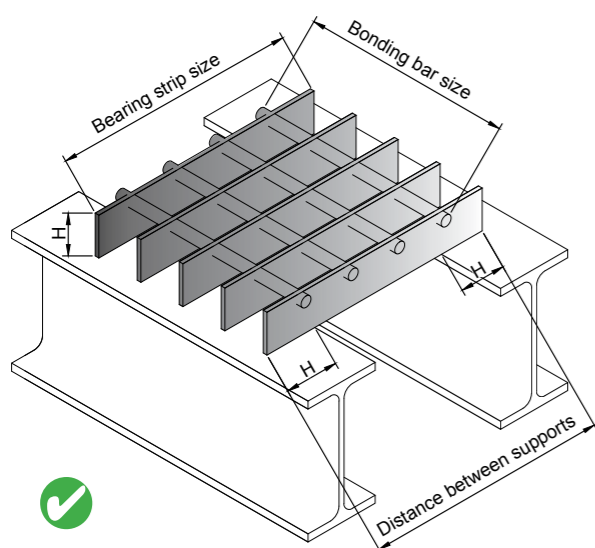
2. BY FREE CHOICE:

- mesh (pitch of the bearing strip and pitch of the bonding bar);
- height and thickness of the bearing strip;
- the span 'in the gap' between the two support beams of the supporting structure.

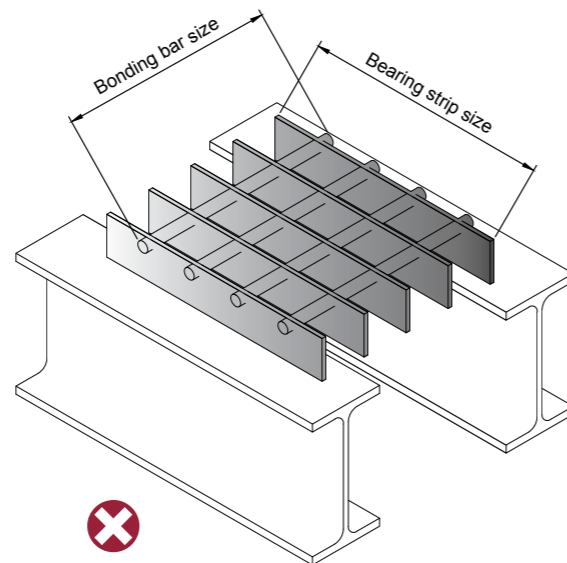
The main safety requirement when using grating is the correct grating positioning in relation to the load-bearing supports. The bearing strips must rest on the support legs (Fig. a). If positioned incorrectly, the grating loses its load-bearing capacity, which can lead to structural collapse (Fig. b).

The edges of bearing strips shall be located on the supporting structure at a distance greater than or equal to the height of the bearing strip (H) but not less than 25 mm for a strip up to 50 mm high and not less than 50 mm for a strip over 50 mm high.

a. Correct grating positioning



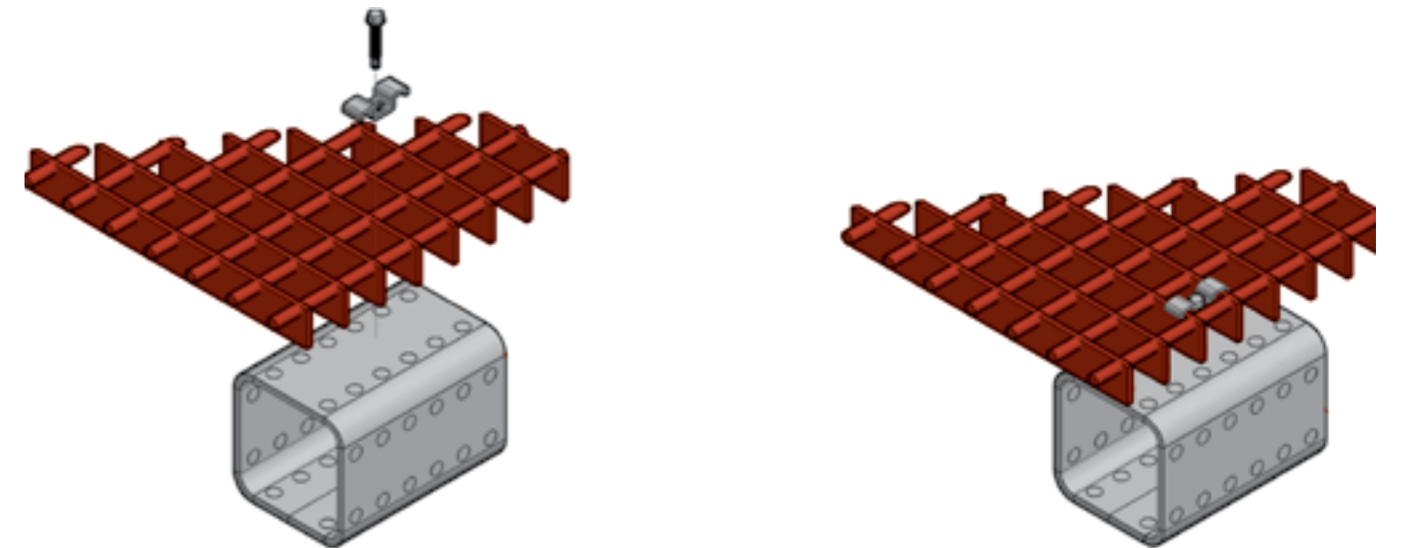
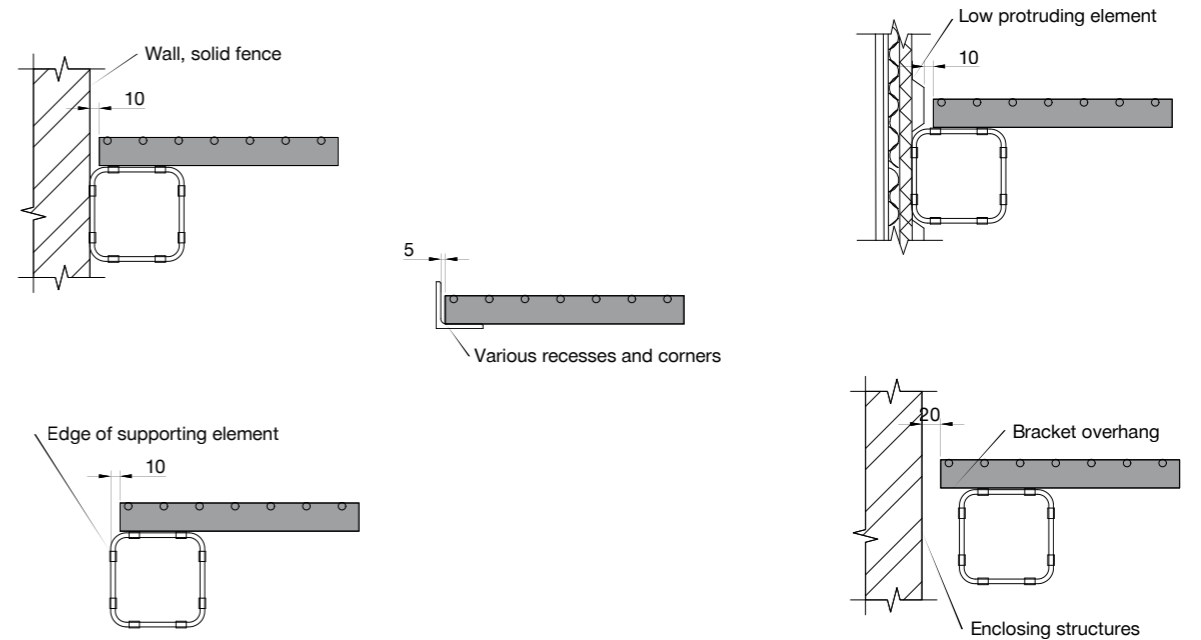
b. Incorrect grating positioning



RECOMMENDATIONS FOR GRATING INSTALLATION, OPERATION AND MAINTENANCE

The grating installation consists of several stages:

1. The grating installation starts at one edge of the platform and ends at the opposite edge. The panels are installed in accordance with the KM and KMD sections of the project documentation
2. The mounting clearances are verified.







3. The grids are fixed with a staple and a screw, at least 4 pcs per panel and at least 4 pcs/m².

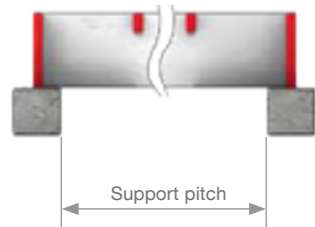
4. At the end of the installation, debris is removed and zinc spray is applied to the places of longitudinal cuts of the grating and scratches formed on the grating surface during installation.

When the grating is in use, debris is removed at least twice a year. In case of corrosion, the damaged areas are cleaned and treated with zinc spray.W

LOAD TABLE FOR SP WELDED GRATING

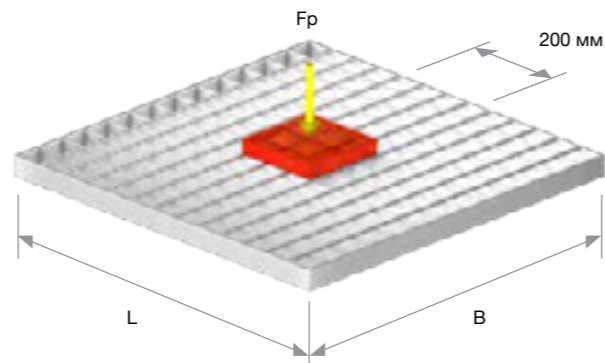
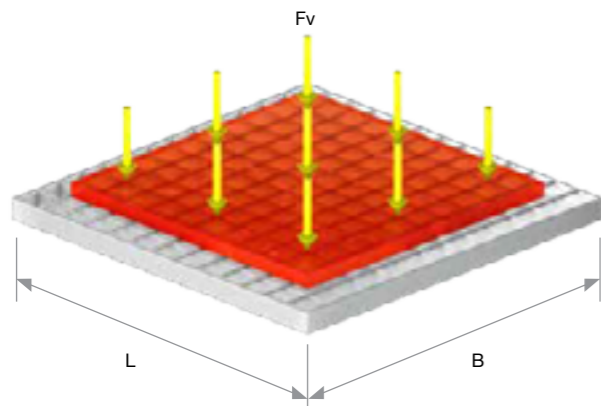
		Support pitch (mm)																								
Bearing strip		500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500				
30x3	Fv	6912	4800	3527	2700	2133	1728	1428	1200	1022	882	768	675	598	533	479	432	392	357	327	300	276				
	fv	0,13	0,19	0,26	0,34	0,43	0,53	0,64	0,76	0,89	1,04	1,19	1,35	1,53	1,71	1,91	2,12	2,33	2,56	2,8	3,05	3,31				
	Fp	573	458	382	327	287	255	229	209	191	176	164	153	143	135	127	120	115	109	104	100	96				
	fp	0,13	0,18	0,24	0,31	0,39	0,47	0,56	0,66	0,77	0,89	1,02	1,16	1,3	1,45	1,61	1,78	1,96	2,15	2,34	2,54	2,76				
40x3	Fv	12288	8533	6269	4800	3793	3072	2539	2133	1818	1567	1365	1200	1063	948	851	768	697	635	581	533	492				
	fv	0,1	0,14	0,19	0,25	0,32	0,4	0,48	0,57	0,67	0,78	0,89	1,02	1,15	1,28	1,43	1,59	1,75	1,92	2,1	2,28	2,48				
	Fp	1002	802	669	573	501	445	401	364	334	308	287	267	251	236	223	211	201	191	182	174	167				
	fp	0,1	0,14	0,18	0,23	0,29	0,35	0,42	0,5	0,58	0,67	0,76	0,87	0,97	1,09	1,21	1,34	1,47	1,61	1,75	1,91	2,07				

-  Limits recommended by the manufacturer. Within these limits, the elastic deflection does not exceed 1/200 of the support pitch and is less than 4 mm under a single moving load of 150 daN acting on an area of 200x200 mm anywhere in the grid.
-  Within these limits, the maximum deflection for a distributed load of 500 daN/m² is 1/200 of the support pitch.
-  Within these limits, for a distributed load of 500 daN/m², the deflection does not exceed 4 mm.
-  Within these limits, the grid can support a travelling load of 150 daN acting on an area 200x200mm anywhere in the grid with a maximum deflection of 1/200 of the support pitch.



CONVERSION FACTOR FROM KG TO KN:
 10 kN ≈ 1 ton
 1 kN ≈ 100 kg

- Permissible stress for steel 1,600 N/cm³
- Safety factor up to ductility limit 1.5
- Safety factor up to tensile strength 2.35
- Grille support = grille height (at least 30 mm)



Explanation

1daN ≈ 1KG
 Fv – distributed load value (N/m²)
 fv – deflection arrow (cm) from the Fv load

Fp – the value of concentrated load (N) acting on 200 x 200mm area
 fp – deflection arrow (cm) from the Fp load