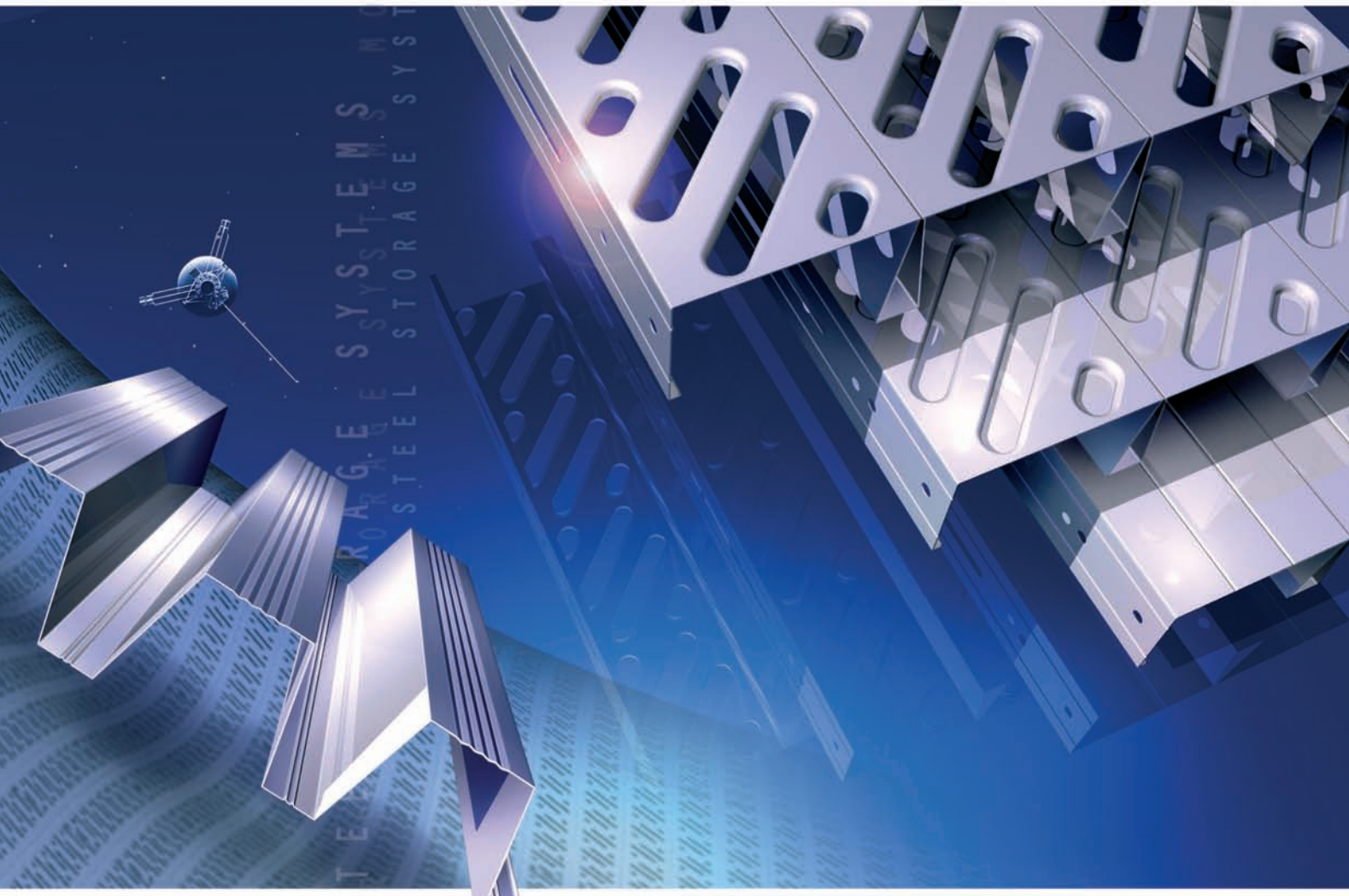
MODULAR STEEL STORAGE SYSTEMS

STEEL PLANKS

CORRUGATED STEEL SHEETING
GRIGLIATI / LAMIERA GRECATA
GITTERROSTE / TRAPEZBLECH
CAILLEBOTIS / BAC ACIER



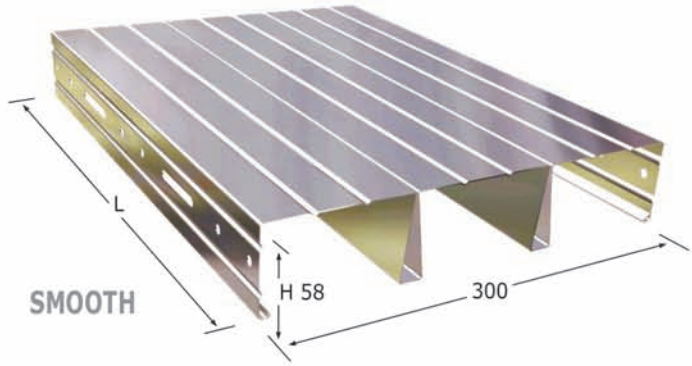
METALSISTEM®
SISTEMI E STRUTTURE PER IL MAGAZZINO

METALSISTEM STEEL PLANKING AND SHELF PANELS

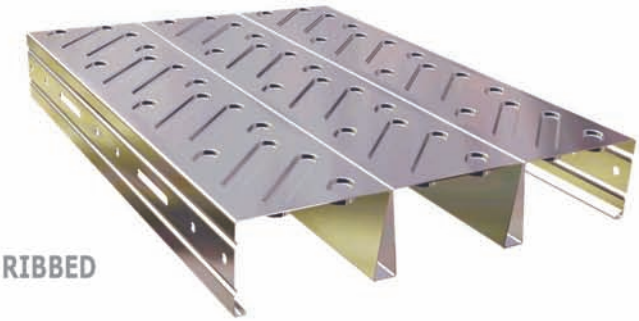
The METALSISTEM patented steel planks can be used as industrial pavements in both two tier shelving and mezzanine applications. The steel planks are supplied in standard widths of 300 mm together with compensation panels of 100 and 200 mm.
METALSISTEM corrugated steel planks complete the range of industrial pavements. These, coupled with a wooden load distributing surface, are used for the creation of a floor suited for both pedestrian and wheeled equipment.
The patented METALSISTEM steel shelves can be divided into two categories: industrial, cut to length panels and modular flanged end shelf panels.
The patented METALSISTEM industrial steel shelves are produced in a standard width of 300 mm and are cut to a customer specified length. 100 and 200mm wide compensation shelves are also available.
The METALSISTEM flanged end modular steel shelf panels integrate seamlessly with the METALSISTEM shelving and racking range of products slotting into lips at the top of the beams. These can be supplied in lengths ranging from 320 to 1500 mm.

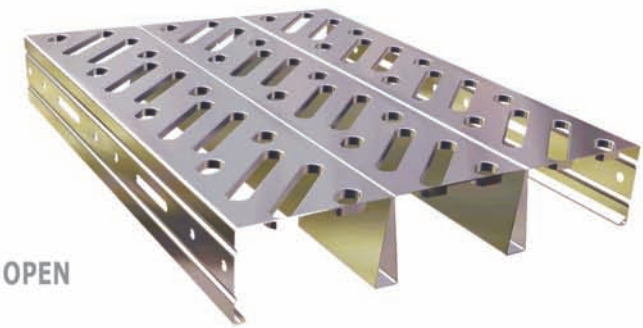
CALCULATION AND SAFETY STANDARDS

The correct use of the product, both technically and visually, distinguishes both the customer and the manufacturer. METALSISTEM recommends that customers make use of this product professionally and in strict conformity with the applicable standards and product technical characteristics. The design and assembly must therefore be conducted by expert and qualified personnel. METALSISTEM declines all responsibility for inappropriate or improper use of the steel planks, corrugated planks, shelves and their respective accessories.
The structural calculations are based on the following reference documents:
C.N.R. 10011/97 - C.N.R. 10022/84.
The material reference documents are:
EN 10143 - EN10147 - EN10204 – EN10327.
The steel planks and shelf panels are made from prime hot dipped galvanized steel (SENDZIMIR procedure).
The steel plank load bearing capacity tables have been calculated respecting the admissible tensile stress of the material with a maximum deflection of L/300.
The corrugated steel plank load bearing capacity tables have been calculated respecting the admissible tensile stress of the material with a maximum deflection of L/200.
The steel shelf panel load bearing capacity tables have been calculated respecting the admissible tensile stress of the material with a maximum deflection of L/200.
The steel planks must be connected to each other using M6x20 mm bolts (Art. 00005+00020 - Ref.E)
The "H"-joint (ref. H) and "C"-edging channels (ref. G) must be included on all floors to cover joints and edging.
All steel planks applied to 2-tier shelving systems and mezzanines must be firmly fastened to the supporting structure.
The METALSISTEM Technical Department is available for any specific calculation or custom-built applications.
METALSISTEM reserves the right to apply technical changes to the product. Data, characteristics and dimensions given in this document are merely indicative.



SMOOTH


RIBBED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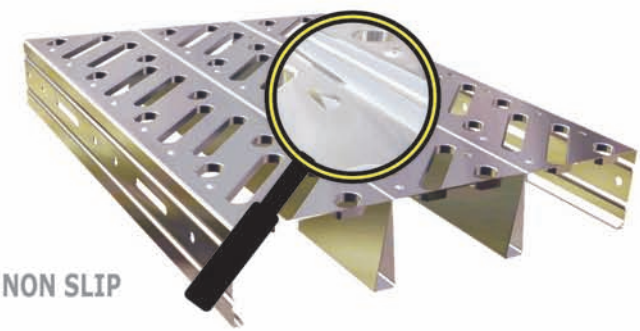
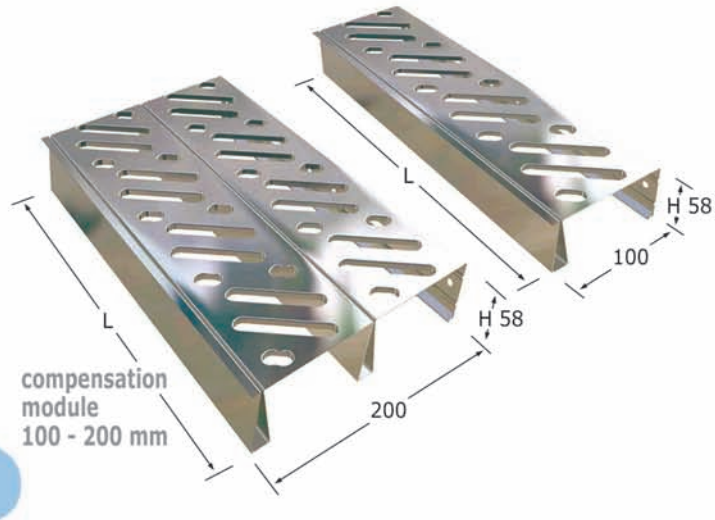

NON SLIP



compensation module 100 - 200 mm

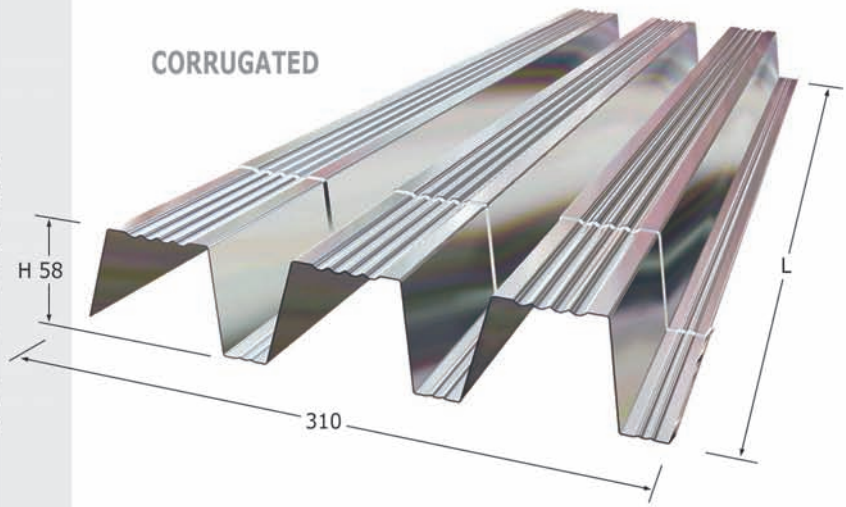
STEEL PLANKS FOR WHEELED EQUIPMENT AND PEDESTRIAN TRAFFIC

The METALSISTEM steel planks may be used for wheeled equipment when combined with a load distributing surface, within the limits of the load capacity indications stated in the table below. As load distributors, customers may use plywood, chipboard panels, steel panels or similar materials which are adequate to uniformly distribute the point loads of the wheels.
The table below shows the load capacity per square meter, with an applied uniformly distributed load, as a function of the centre distance between the support beams. At design stage, customers need to check that the load transmitted from the wheeled equipment in a square meter does not exceed the uniformly distributed load capacity stated in the table below.

Deflection 1/300 L Centre distance of support beams (mm)	Uniformly Distributed Load (daN/m²)					
	H 58 8/10		H 58 10/10		H 58 15/10	
	SMOOTH RIBBED	OPEN	SMOOTH RIBBED	OPEN	SMOOTH RIBBED	OPEN
1000	1.200	1.200	1.500	1.500	1.500	1.500
1200	1.200	1.190	1.500	1.500	1.500	1.500
1400	1.200	880	1.500	1.130	1.500	1.500
1600	870	620	1.220	800	1.500	1.250
1800	610	440	850	560	1.290	880
2000	450	320	620	410	940	640
2200	340	240	470	310	710	480
2400	260	180	360	240	540	370
2600	200	-	280	190	430	290
2800	-	-	230	-	340	230
3000	-	-	180	-	280	190

H58/310 CORRUGATED STEEL PLANKS

Corrugated steel planks are offered in 310 mm modules with lengths varying at a pitch of 50mm up to a maximum length of 6000mm. These must be used combined with either MDF boards or sheet steel or other material suited for pedestrian transit or for wheeled equipment.
The corrugated sheets are easy to lay, can be overlapped and must be nailed to the supporting structure.
The table below shows the uniformly distributed load bearing capacities per square meter as a function of the span between the beams.



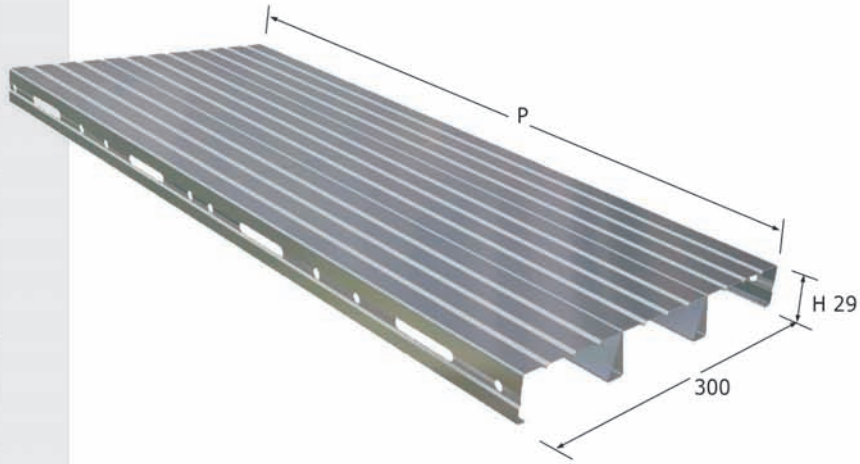
GAUGE (mm)		Maximum admissible uniformly distributed load bearing capacity (daN/m²) - deflection 1/200 L																		
		CENTRE DISTANCE (mm)																		
		500	750	**1000**	1250	**1500**	1750	**2000**	2250	**2500**	2750	**3000**	3250	**3500**	3750	**4000**	4250	**4500**	4750	**5000**
	0,6	1712	1141	856	653	453	333	255	201	163	135	113	97	83	67	55	46	39	33	28
	0,8	3000	2291	1718	1150	799	587	449	355	287	238	200	165	132	107	88	74	62	53	45
	0,6	2000	1428	958	653	453	333	255	201	163	135	113	97	83	68	60	53	47	42	38
	0,8	3000	2865	2138	1368	950	698	534	422	342	283	238	202	175	152	134	118	106	95	86

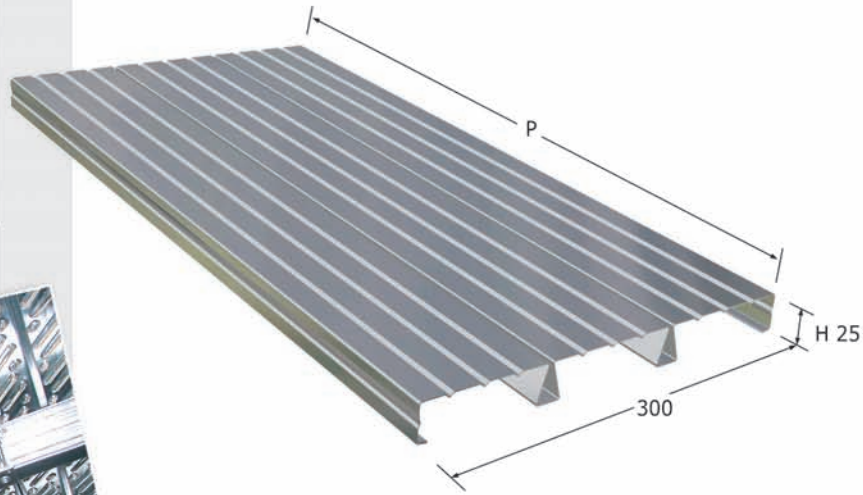
SHELF PANELS

The METALSISTEM steel industrial shelf panels are supplied in standard heights of 25 mm and 29 mm and in a standard width of 300 mm. The table below shows the load capacity per panel, calculated respecting the admissible tensile stress of the material with a maximum deflection of P/200 considering an applied uniformly distributed load.

P (mm) deflection 1/200 P	Maximum admissible uniformly distributed load bearing capacity (daN/panel)		
	H 25 /C L=300	H 29 /D L=300	H 29 /F L=300
400	310	-	-
500	240	265	350
600	200	265	350
700	170	240	350
800	145	210	350
900	130	185	310
1000	110	165	275
1100	90	150	250
1200	75	135	225
1300	65	125	210
1400	55	105	180
1500	45	90	160

P = shelf depth





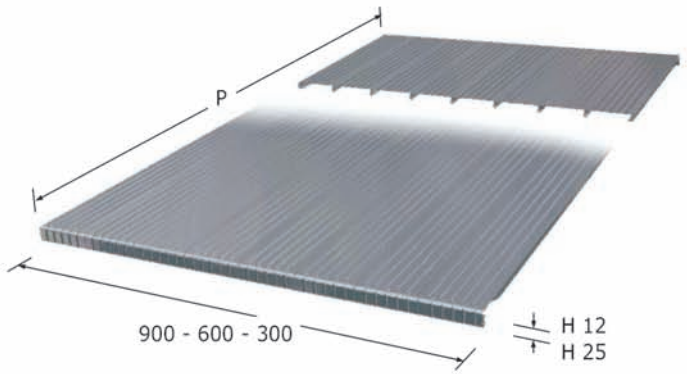
LIGHT SHELVING FLANGED END SHELF PANELS

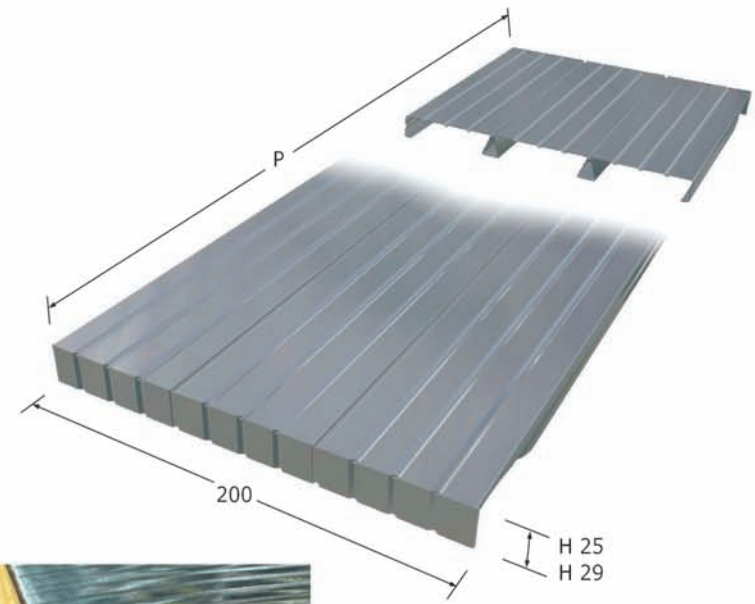
The flanged end shelf panels applied to the Super123 and Unirack series of shelving come in modular units of 12 and 25mm height. The uniformly distributed load bearing capacities are calculated respecting the admissible tensile stress of the material with a maximum deflection of 1/200 and are the result of the combined load bearing capacities of the shelf panels and the beams. Refer to the technical addendums of the Super123 and Unirack catalogues (starting from ed.03 of 4/2005 UNIRACK and ed.03 of 12/2004 SUPER123) for the load bearing capacity tables.

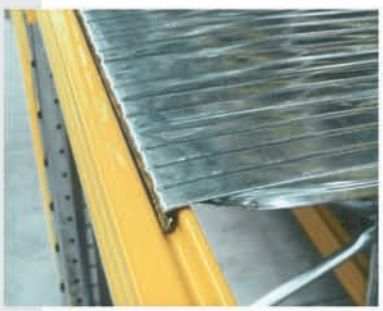
PALLET RACKING FLANGED END SHELF PANELS

The METALSISTEM flanged ends shelf panels are applied to the pallet racking series come in modular units of 25 mm and 29 mm and in a standard width of 300 mm.
The table below shows the load capacity per panel, calculated respecting the admissible tensile stress of the material with a maximum deflection of P/200 considering an applied uniformly distributed load.

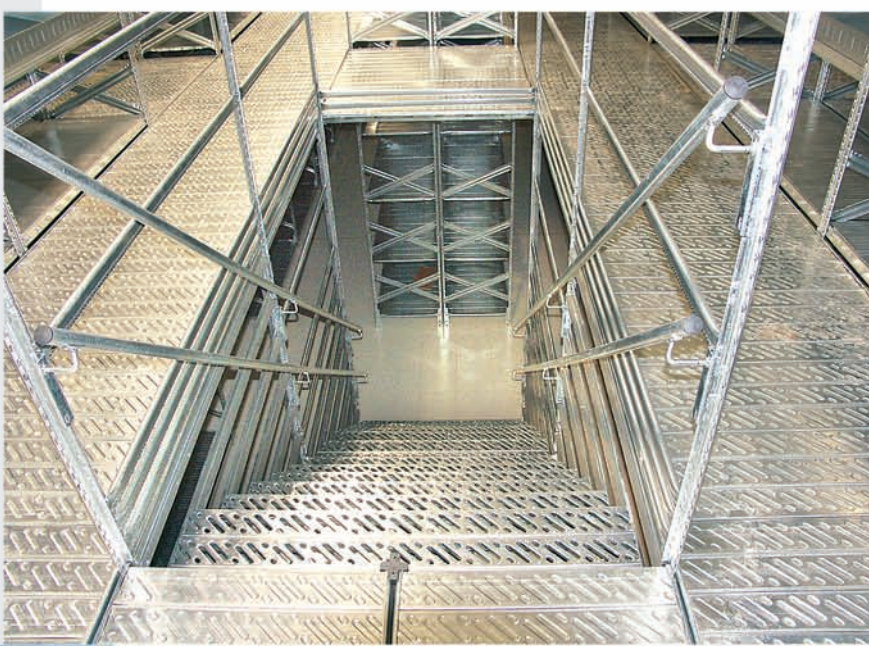
P (mm) deflection 1/200 P	Maximum admissible uniformly distributed load bearing capacity (daN/panel)					
	H 25 /A L=300	H 25 /B L=300	H 25 /C L=300	H 29 /D L=300	H 29 /E L=300	H 29 /F L=300
400	180	205	310	-	-	-
500	140	160	240	265	310	350
600	115	130	200	265	310	350
700	95	110	170	240	310	350
800	85	95	145	210	280	350
900	75	85	130	185	250	310
1000	65	80	110	165	220	275
1100	60	70	90	150	200	250
1200	-	60	75	135	180	225
1300	-	50	65	125	165	210
1400	-	-	55	105	145	180
1500	-	-	45	90	125	160

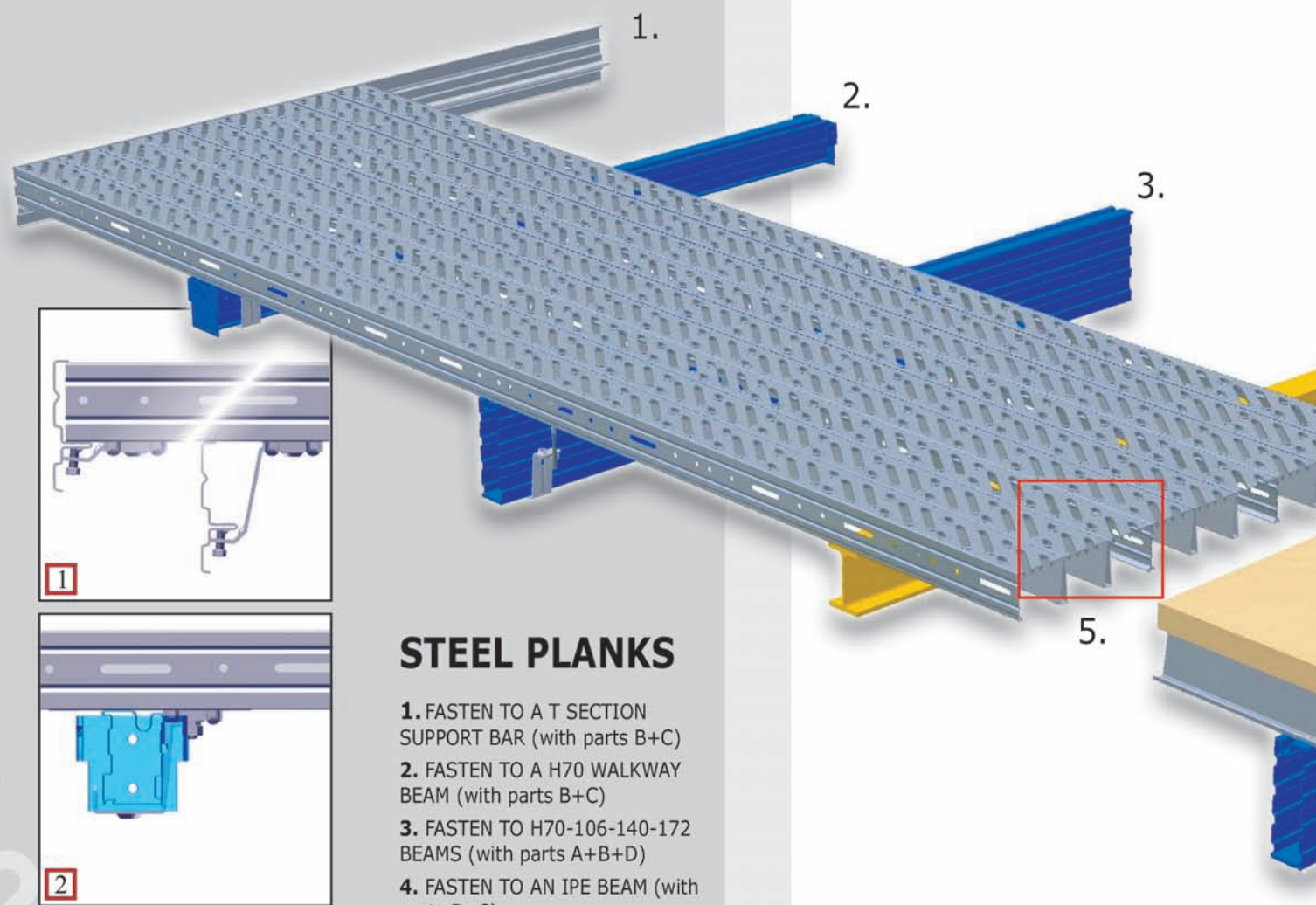


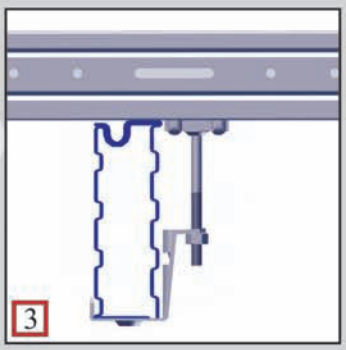


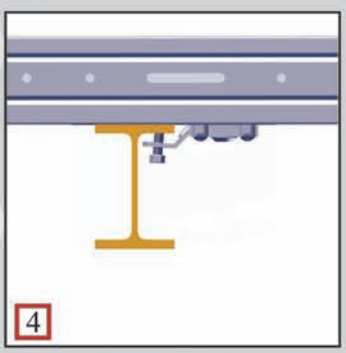


The grooves on top of the beams provide an ideal method of seating the steel shelf panels. In the case of pallet racking, the grooves are also used to locate heavy duty pallet support bars, drum cradles for the storage of non palletised or special goods and more.









STEEL PLANKS

1. FASTEN TO A T SECTION SUPPORT BAR (with parts B+C)

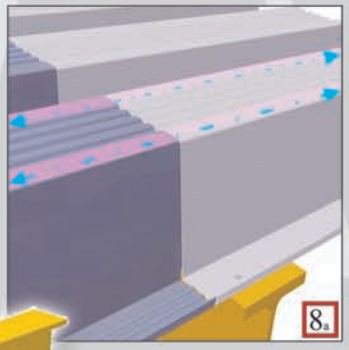
2. FASTEN TO A H70 WALKWAY BEAM (with parts B+C)

3. FASTEN TO H70-106-140-172 BEAMS (with parts A+B+D)

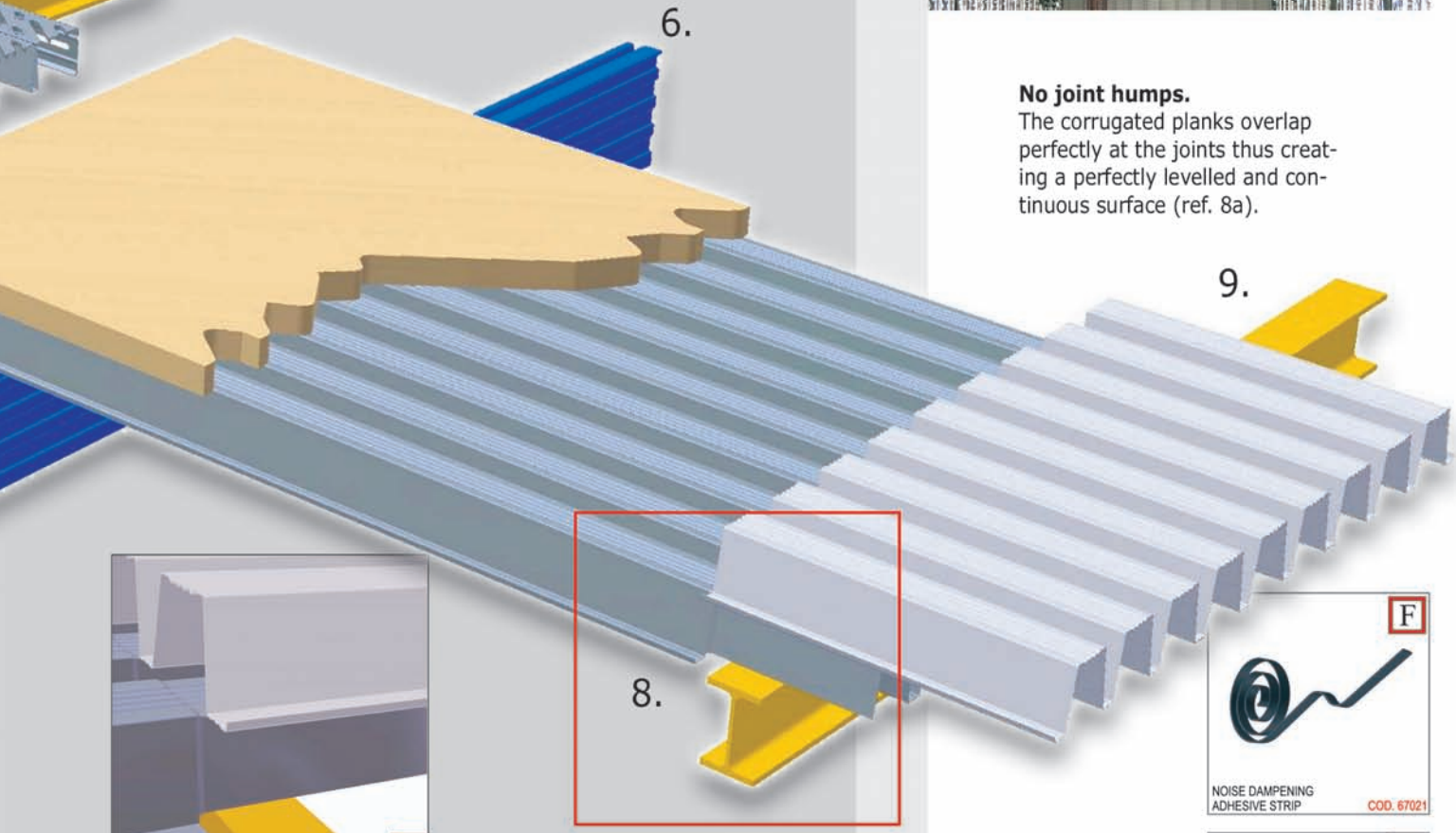
4. FASTEN TO AN IPE BEAM (with parts B+C)

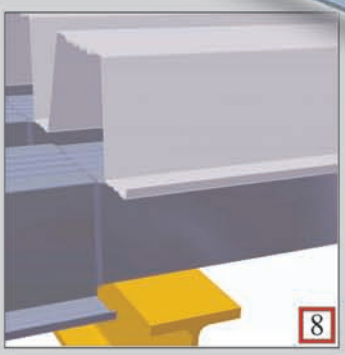
5. FASTEN BETWEEN STEEL PLANKS (with part. E at a centre distance of 1 meter)

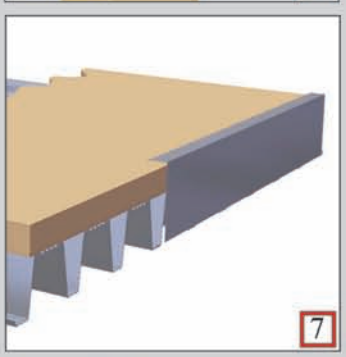
The self adhesive noise dampening strip must be placed between the beams and the steel planks (ref. F).

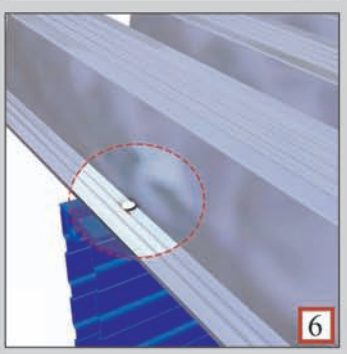


No joint humps.
The corrugated planks overlap perfectly at the joints thus creating a perfectly levelled and continuous surface (ref. 8a).









CORRUGATED PLANKS

6. FASTEN TO H70-106-140-172 BEAMS (with part I)

7. EDGING (part J)

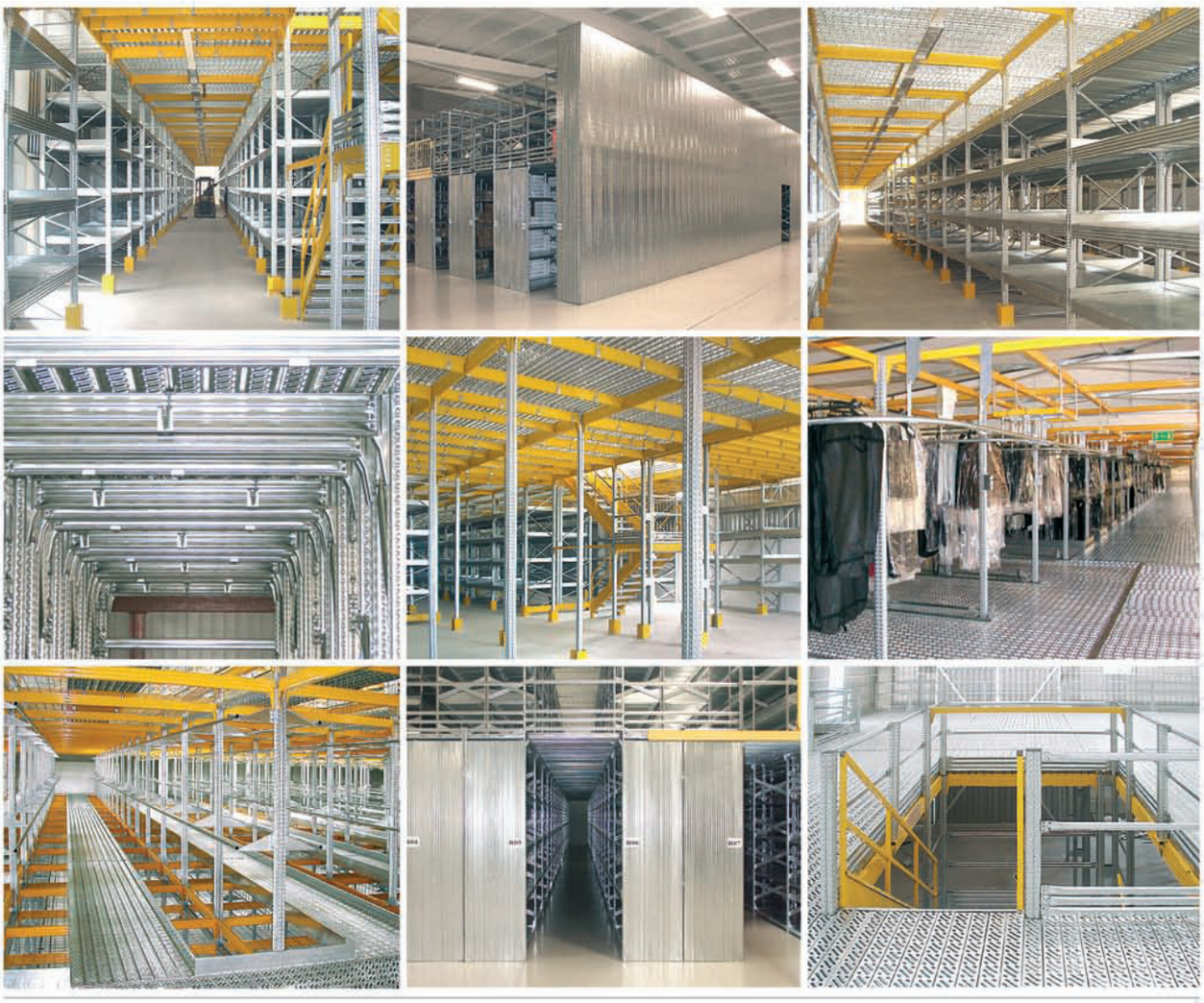
8. CONNECTION BETWEEN SHEETS

9. FASTEN TO IPE BEAM (with part I, detail 8a).

The floor is completed by laying MDF panels (part G) or other suitable material able to guarantee the flow of wheeled equipment and pedestrian traffic.

METALSISTEMA® IGQ FEM section X

STEEL PLANKS



ESTANTERIAS METALICAS MODULARES STEEL STORAGE SYSTEMS

Endal

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