

- 1- FRAMES
- 2- BEAMS
- 3- FOOTPLATES HEAVY DUTY
- 4- SHIMS
- 5- SAFETY LOCKING
(INCLUDED IN BEAMS)

- 6- PROTEC. UPR.-FRAM.
- 7- UNIONS FRAME 96
- 8- CHI.SUPP.
- 9- HIGH CROSSBAR
- 10- ANCHOR BOLTS
- 11- ST. BRAKE SHOE DRUM

- 12- SHELVES L-2C GALV.
- 13- TAM / TAM.MEL
- 14- UNIONS PORTAL
- 15- MESH GUARD
- 16- CONSOLE

TYPE PALLET

A:
4 WAY ENTRY - NON REVERSIBLE



B:
2 WAY ENTRY - NON REVERSIBLE



C:
2 WAY ENTRY - REVERSIBLE



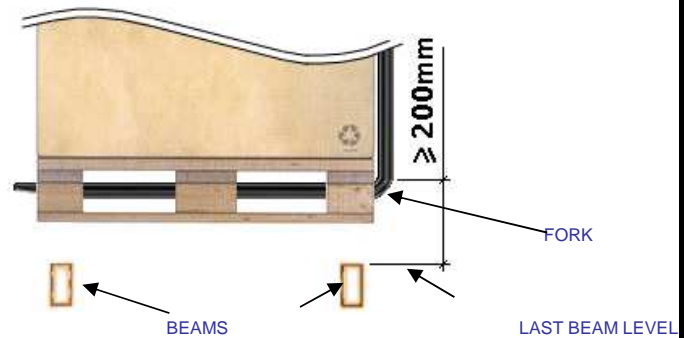
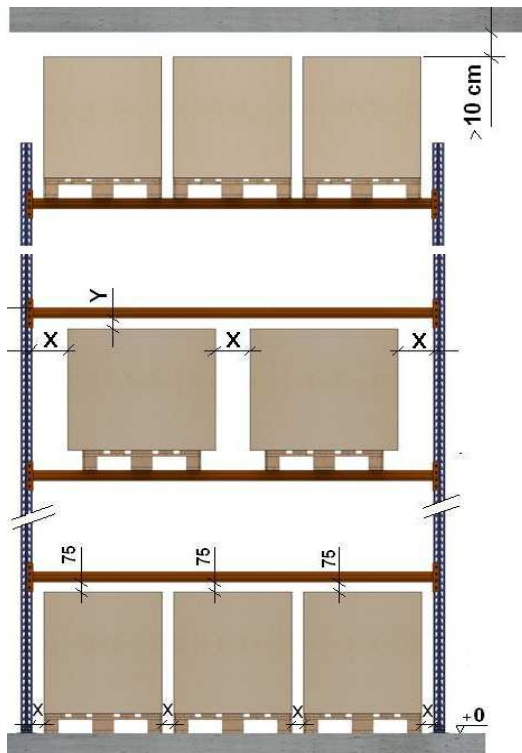
D:
2 WAY ENTRY - NON REVERSIBLE



To store pallet types B and C in Conventional Pallet Racking the dimensions of the skids should be taken into account.

STANDARD DIMENSIONS (mm): 800 x 1.200 1.000 x 1.200 1.200 x 1.200

LOAD LEVELS - CLEARANCES



The minimum distance from the forks to the top beam is 200 cm. gap.

Y= Height between Pallet & Bottom side panel size Beam (except for Level of FLOOR = 75 mm.)

X=Distance minimum between Pallets or Loads

Height of the load levels. (mm)	Class 400		Class 300A		Class 300B	
	X	Y	X	Y	X	Y
0 - 3000	75	75	75	75	75	75
3000 - 6000	75	100	75	75	75	100
6000 - 9000	75	125	75	75	75	125
9000 - 12.000	100	150	75	75	100	150
12.000 - 13.000	100	150	75	75	100	175
13.000 - 15.000	--	--	75	75	100	175

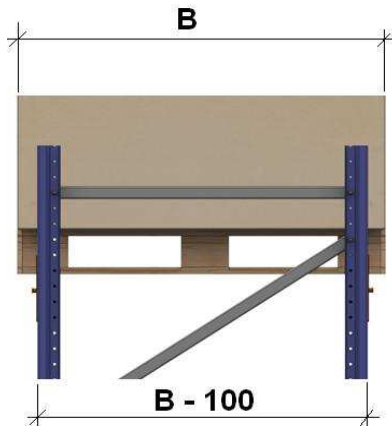
Class 300A: narrow aisles, a trilateral truck with an operator on the platform, which goes up with a pallet or has an auxiliary device which allows establishing the position in the pallet height.

Class 300B: narrow aisles, a trilateral truck in which the operator is not elevated with a pallet, and does not have auxiliary devices for establishing the position in the pallet height.

Class 400: a wide aisle, with a traditional or a reach truck (retractable type).

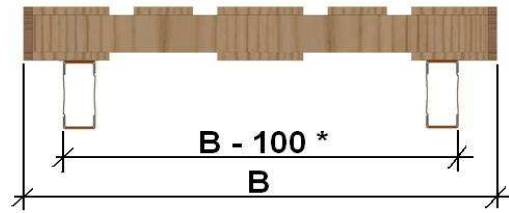
DEPTH FRAME - CLEARANCES

**PALLETS TYPE A / D
(SKIDS FACING THE AISLE)**



Depth Frame = Depth Pallet - 100mm.

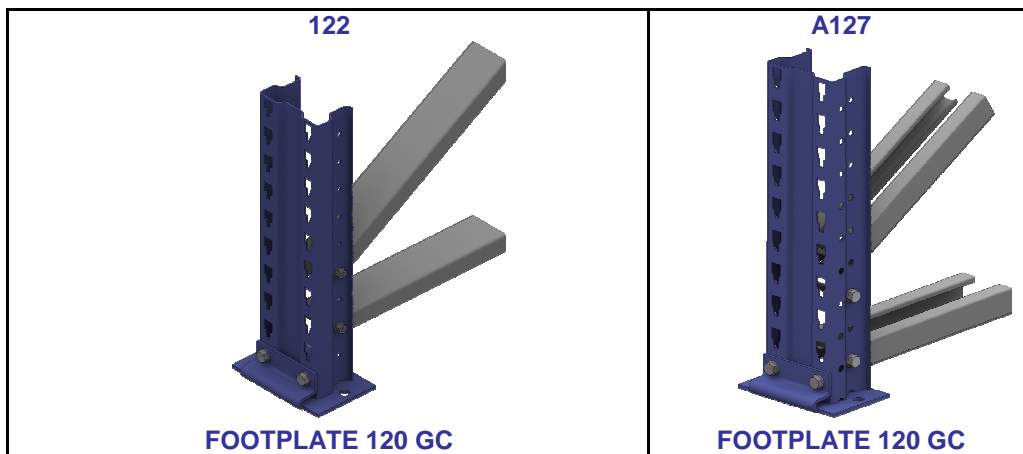
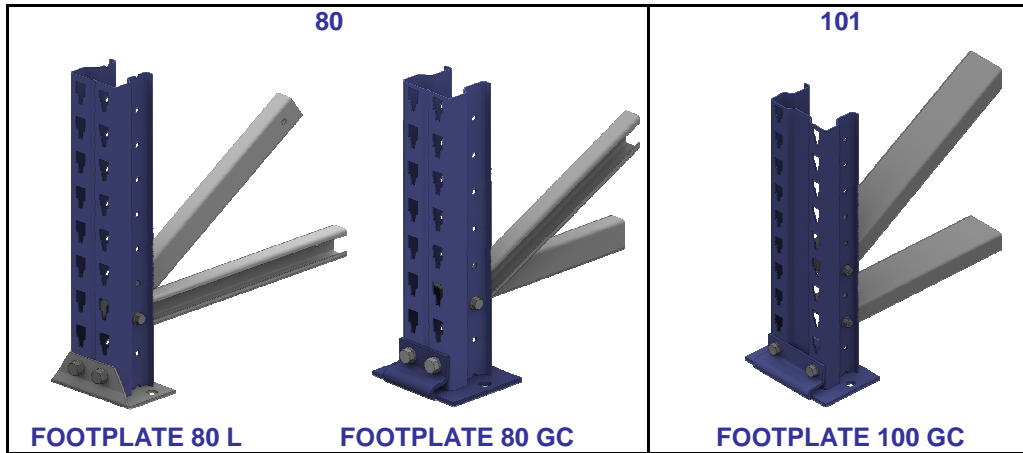
PALLETS TYPE B / C

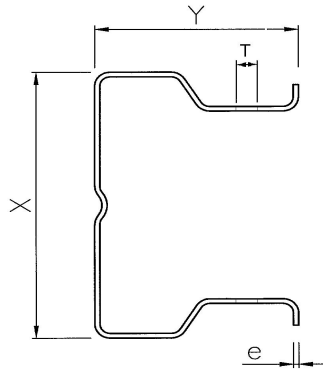


* FOR SUPPORT MINIMUM PALLET
WELDED BEAMS:

Depth Frame = Depth Pallet - 100mm.

UPRIGHTS



UPRIGHTS AND FRAMES


TYPE	x (mm)	y (mm)	e (mm)	T (mm)
80	80,6	69	1,8	8,5
101	101	69	2,00	8,5
122	122	69	2,5	8,5
A127	122	80	2,5	10,5

LOADING TABLE OF FRAMES

TYPE PROFILE	FREE HEIGHT (cm)								
	50	75	100	125	150	175	200	225	250
80	11.550	11.550	11.200	10.675	10.150	9.275	8.400	7.375	6.600
101	15.575	15.575	15.225	14.525	14.000	13.300	12.600	11.625	10.400
122	21.000	21.000	20.825	20.300	19.600	18.900	18.030	17.500	16.500

The above tables have been designed taking into consideration the dead weight of the rack, the pallet weight of the rack (including the product) and the following stresses.

- Horizontal transversal stress (L/200 of the vertical load)
- Horizontal longitudinal stress (L/200 of the vertical load)
- Transversal push 35 kg in highest load level.

F.E.M recommends when establishing the criteria for the stability of an installation that we take the calculations of frames and beams as a whole in order to get the ideal solution for each installation.

The following tables do not take the calculation as a whole, but individually, on one hand the frame and on the other the beam. Therefore, we must get the result from the tables EN-15512, which calculate the structure in a comprehensive manner, and specifically for each installation.

LOADING TABLE OF BEAMS

Load in Kg per pair of Beams for L/200

WELDED BEAMS

TB-S	SIZES			BEAMS	LENGTH (mm)										
	a	b	e		950	1150	1350	1825	2225	2625	2700	3300	3600	3900	
	80	50	1,5	TB 80	1950	1900	1800	1400	1200	950	850	650	550	500	
	100	50	1,5	TB 100	2250	2250	2250	2050	1750	1550	1500	1200	1050	900	
	120	50	1,5	TB 120	2250	2250	2250	2600	2400	2100	2050	1750	1500	1250	
	130	50	1,5	TB 130	2250	2250	2250	2850	2600	2300	2250	1900	1750	1550	
2C-S	SIZES			BEAMS	LENGTH (mm)										
	a	b	e		950	1150	1350	1825	2225	2625	2700	3300	3600	3900	
	110	50	1,5	2C 1115	2250	2250	2250	4250	3550	3100	3000	2300	2000	1700	
	130	50	1,5	2C 1315	2250	2250	2250	4500	4350	3700	3600	3050	2650	2350	
	150	50	1,5	2C 1515	2250	2250	2250	4500	4500	4500	4350	3600	3350	3050	
160	50	1,5	2C 1615	2250	2250	2250	4500	4500	4500	4500	4500	4200	4000	3600	
170	50	1,8	2C 1718	2250	2250	2250	4500	4500	4500	4500	4500	4450	4100	3800	
J-S	SIZES			BEAMS	LENGTH (mm)										
	a	b	e		950	1150	1350	1825	2225	2625	2700	3300	3600	3900	
	80	80	1,5	25 J 815				4300	3250	2500	1900	1800	1300	1150	1000
	110	80	1,5	25 J 1115/25				4500	3900	3320	3225	2300	1950	1700	
			42 J 1115/42				4500	3900	3320	3225	2300	1950	1700		

TB-S	BEAMS Only for Level PICKING													
	SIZES			BEAMS	LENGTH (mm)									
a	b	e	950		1150	1350	1825	2225	2625	2700	3300	3600	3900	
60	50	1,5	TB 60	1750	1550	1400	1050	800	600	550	400	350	300	
ZS60P-S	SIZES			BEAMS	LENGTH (mm)									
	a	b	e		950	1150	1350	1825	2225	2625	2700	3300	3600	3900
81	30	2,5	ZS60P-S	2000*	1675*	1435*	1100*			745				

 Priority Service

* They are not prepared for metal shelves, if necessary, please ask the Technical Dptm.

This table is not usable for side bays different in width from the other bays of the same row, nor in the underpasses.

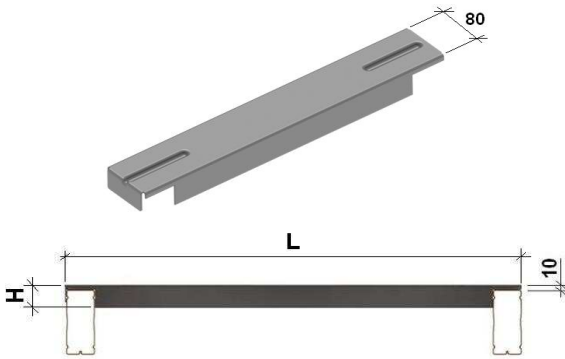
LOAD CONSOLE MAX. 1.500 Kg / PALLET

LOAD UNIFORMLY DISTRIBUTED

Deflection maximum $F \leq \frac{L}{100}$

UPRIGHT END M122

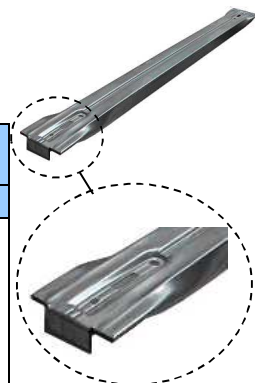
**CROSS TIES PALLET GALV.
(BEAMS 2C and TB)**



MAX. LOAD PER CROSS TIE Kg.			
BEAM 2C - TB			
L x H (mm)	900 x 45	1100 x 50	1300 x 60
DEPTH FRAME	900 mm	1100 mm	1300 mm
Kg	660	650	760

**CROSS TIE PALLET STAMPED L2C
(BEAMS 2C and TB)**

MAX. LOAD PER CROSS TIE PALLET STAMPED L2C (Kg)		
DEPTH (cm)	P (Kg)	Q (Kg)
70	330	804
75	317	773
80	304	744
90	278	676
100	254	601
105	408	875
110	391	805
120	358	698
130	328	609
140	304	528



P = PUNCTUAL LOAD CENTRAL

Q = LOAD UNIFORMLY DISTRIBUTED

HIGH CROSSBAR (BEAMS 2C and TB)

MAX. LOAD PER CROSS TIE (Kg) (UNIFORMLY DISTRIBUTED)					
L (LENGTH CROSS TIE) (mm)					
TYPE	850	900	950	1050	1250
TB 80	1300	1200	1100	1050	900
TB 100	1750	1700	1600	1450	1250



In case of other values please consult the Engineering Department.

SUPPORTS CONT. GALV.

SIZES:

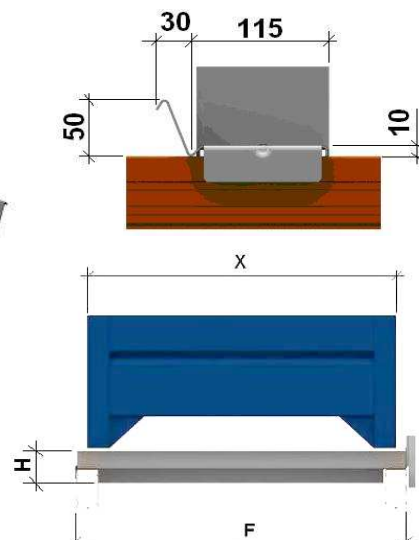


F = DEPTH FRAME = X + 50 mm

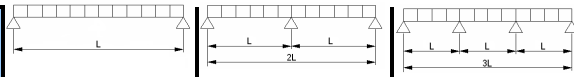
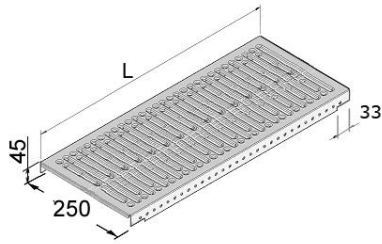


F= DEPTH FRAME

MAX. LOAD PER SUPPORT Kg.			
BEAMS 2C and TB			
F x H (mm)	850 x 45	1050 x 45	1250 x 56
DEPTH FRAME	850 mm	1050 mm	1250 mm
Kg	650	700	750

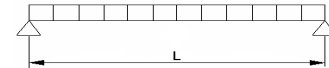
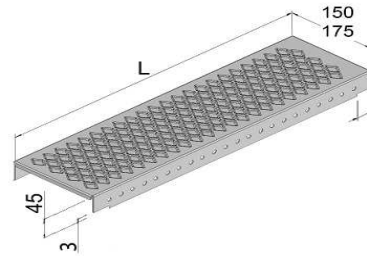


**MAX. LOAD PER FLOORING SLOTTED EJ08
(UNIFORMLY DISTRIBUTED)
VALUES CALCULATED FOR DEFLECTION $F=L/200$**



(L) DISTANCE BETWEEN SUPPORTS (cm)	2 SUPPORTS		3 SUPPORTS		3 SUPPORTS	
	KG/PIECE	kg/m ²	KG/PIECE	kg/m ²	KG/PIECE	kg/m ²
50	530	4240	775	3100	1230	3280
60		3533	760	2533	1210	2688
70		3028	740	2114	1190	2266
80		2650	725	1812	1170	1950
90		470	2088	710	1577	1145
100	425	1700	695	1390	1125	1500
110	385	1400	675	1227	1105	1339
120	350	1166	660	1100	1085	1205
130	325	1000	645	992	-	-
140	300	857	605	864	-	-
150	265	706	565	753	-	-
160	210	525	525	656	-	-
180	150	333	465	516	-	-
200	105	210	-	-	-	-

**MAX. LOAD PER FLOORING STRIATE EJ08 15/17
(UNIFORMLY DISTRIBUTED)
VALUES CALCULATED FOR DEFLECTION $F=L/200$**



(L) DISTANCE BETWEEN SUPPORTS (cm)	DECKING 150mm		DECKING 175mm	
	KG/PIECE	kg/m ²	KG/PIECE	kg/m ²
60	365	---	365	---
80	275	2290	275	2000
90	245	1810	245	1555
100	220	1465	220	1255
120	180	1000	180	880
150	145	640	145	550
200	110	365	110	310

THE INDICATED LOAD PER m² IS VALID AS LONG AS THE DECKING SPLICING COINCIDE WITH THE SUPPORTS. IF THEY DO NOT COINCIDE, DIVIDE BY TWO THE GIVEN LOADS

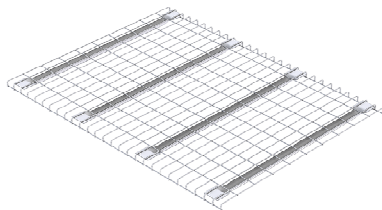
In case of other values please consult the Engineering Department.

SHELVES L-2C00 GALV. & SHELVES CONV. L2C (BEAMS 2C and TB)



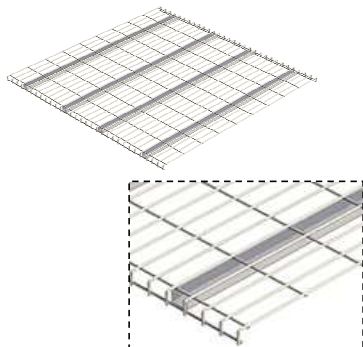
WIDTHS (mm)	200 (198)	225 (223)	250 (248)
LENGTH (mm)	903 / 1003	903 / 1003	903 / 1003
THICKNESS (mm)	1,2	1,2	1,2
ADMISSIBLE LOAD (Kg/U.)	350	350	350

WIRE MESH SHELVES (BEAMS 2C and TB)



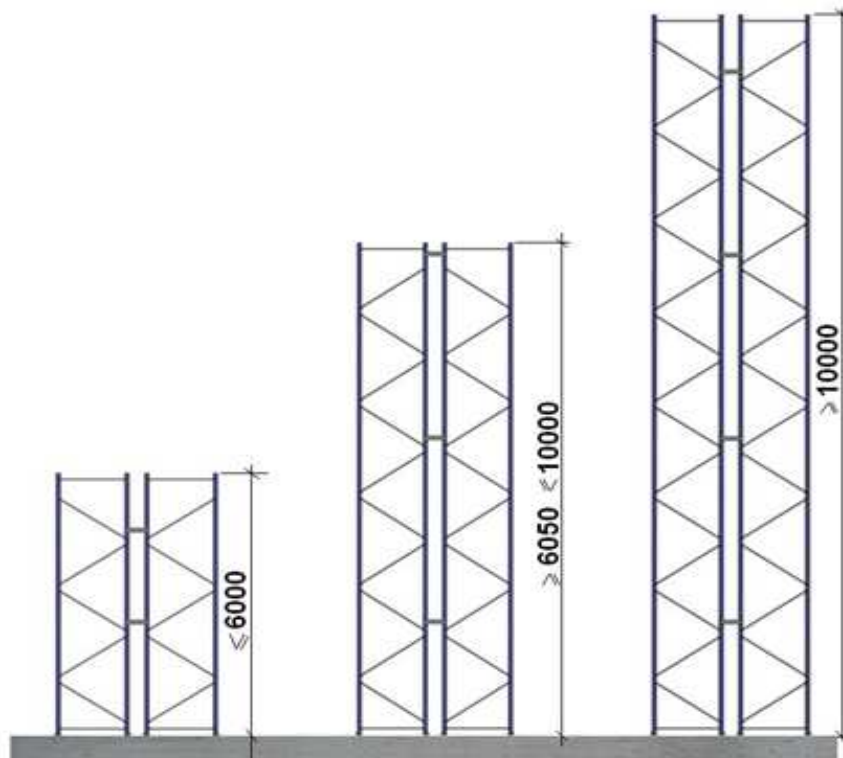
MAX. LOAD PER WIRE MESH SHELVES						
WIDTH	880mm		1090mm		1340mm	
DEPTH	KG/PIECE	Kg/m ²	KG/PIECE	Kg/m ²	KG/PIECE	Kg/m ²
800mm	839	1192	583	623	832	776
900mm	467	590	378	319	539	447
1000mm	419	476	295	202	421	314
1100mm	336	347	270	225	389	264
1200mm	279	264	259	198	358	223

WIRE MESH SHELVES PK (BEAMS ZS60P-S and J)



MAX. LOAD PER WIRE MESH SHELVES PK						
WIDTH	754mm		904/964mm		1384mm	
DEPTH	KG/PIECE	Kg/m ²	KG/PIECE	Kg/m ²	KG/PIECE	Kg/m ²
600mm	416	920	549	1011	759	914
800mm	199	330	416	575	623	563
900mm	177	261	327	402	472	379
1000mm	164	217	306	339	420	303
1100mm	151	183	229	231	369	242
1200mm	123	136	136	126	273	164

UNIONS FRAME



HEIGHT FRAME	NBER. UNIONS FRAME
UP TO 6000mm.	2
between 6050mm.AND 10.000mm.	3
From 10.050mm.	4

NOTE: In case of the frame having a splice, an additional joint will have to be provided, which will be placed the closer to it as possible.

1.- The first frame spacer is located at the second node point of the frame.

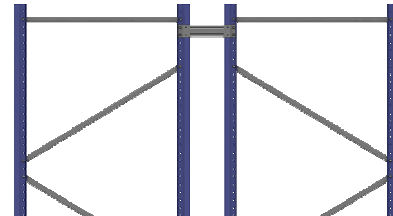
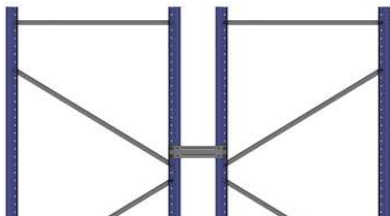
2.- In the case of mounting a union in the upper part of the rack, two cases are considered:

1) The last diagonal ends on the external frame upright.

2) The last diagonal ends on the internal frame upright.

In this case, a union is placed on the last joint, where two diagonals meet (see drawing).

In this case a union is placed on the last joint, where the two last diagonals meet (see drawing).



3.- The rest of unions should be placed in equal distances and preferably (avoiding interference with beams or any other installation element) the closest to the knots between the diagonals.