MECHANICA CARRYING CAPACITY DIAGRAMS

ACCORDING TO THE STANDARD EN 1935:2002

Table n° 1 - Percentage of increase of leaf weight, according to leaf dimension (to choose the version of MECHANICA hinge according to its carrying capacity)

H \ L	600	700	800	900	1000	1050	1100	1150	1200	1250	1300	1400	1500	1600	1700	1800	1900	2000
4000	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
3900	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	5
3800	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	10
3700	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	5	15
3600	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	11	20
3500	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	6	16	25
3400	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	11	21	30
3300	●	●	●	●	●	●	●	●	●	●	●	●	●	●	6	17	26	35
3200	●	●	●	●	●	●	●	●	●	●	●	●	●	●	12	22	32	40
3100	●	●	●	●	●	●	●	●	●	●	●	●	●	6	18	28	37	45
3000	●	●	●	●	●	●	●	●	●	●	●	●	●	13	24	33	42	50
2900	●	●	●	●	●	●	●	●	●	●	●	●	7	19	29	39	47	55
2800	●	●	●	●	●	●	●	●	●	●	●	●	13	25	35	44	53	60
2700	●	●	●	●	●	●	●	●	●	●	●	7	20	31	41	50	58	65
2600	●	●	●	●	●	●	●	●	●	●	●	14	27	38	47	56	63	70
2500	●	●	●	●	●	●	●	●	●	●	8	21	33	44	53	61	68	X
2400	●	●	●	●	●	●	●	●	●	8	15	29	40	50	59	67	X	X
2300	●	●	●	●	●	●	●	●	8	16	23	36	47	56	65	X	X	X
2200	●	●	●	●	●	●	●	9	17	24	31	43	53	63	X	X	X	X
2100	●	●	●	●	●	●	9	17	25	32	38	50	60	69	X	X	X	X
2000	●	●	●	●	●	10	18	26	33	40	46	57	67	X	X	X	X	X

Legend

●	=	Consider the real weight of the leaf
X	=	Not feasible
13	=	Percentage of increase of leaf weight
H	=	height of the leaf
L	=	width of the leaf

Description:

to find out the true loading capacity for the door, firstly calculate the weight of the leaf. Then according to the dimensions it may be necessary to increase this value by the percentage shown in the table 1. The results identifies the carrying capacity of the hinge you have to choose from and the version most suitable for your application can be found in the table 2.

Eg. Door dimensions H = 3000 mm L = 1600 mm, leaf dimension 125 Kg + 13% (16 kg) = 141 Kg
In this case you will find the version of the hinge you have to choose is in the family n° 1(Table 2)

Table 2 - Summary table of MECHANICA carrying capacities

FAMILY	2 WINGS		3 WINGS		2 HINGES	3 HINGES
1	1145/60	1145/67	1145.3/60	1145.3/67	160 Kg	180 Kg
	1146/59	1146/62,5	1146.3/59	1146.3/62,5		
	1146/67	1146.2/62,5	1146.3/67	1146.23/62		
2	1145/79	1146/74,5	1143.36	1145.3/79	120 Kg	140 Kg
	1146/78		1146.3/74,5	1146.3/78		
3	1145/86	1145/93	1145.3/93	1146.3/84	100 Kg	120 Kg
	1145/93SM	1146/84	1146.3/89	1146.3/92		
	1146/89	1146/92	1148.3			
4	1145/53	1148			80 Kg	100 Kg
5	1145/60MR				60 Kg	80 Kg

Hinge for doors fitted with door closers

Doors closer increase the loading on door hinges and their rate of wear. For closer without back-check it is normal to allow for this by assuming the effective door mass to be 20% greater than the actual door mass. For back-check closers the effect is much greater, and the effective door mass is calculated to be 75% greater Eg.: 100 Kg mass door

- Door closer without back-check: 100 Kg + 20% = 120 Kg (weight to consider in order to choose hinges)
- Door closer with back-check: 100 Kg + 75% = 175 Kg (weight to consider in order to choose hinges).

NB. IF RESULTS DON'T PERMIT THE USE OF ANY HINGES IT WILL BE NECESSARY TO REDUCE THE ORIGINAL WEIGHT OF THE LEAF