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ELASTOMERIC BEARING
ESAFLONTYPE



SOMMA was born in 1957 as a metal mechanical factory in the industrial area of Aprilia (LT). The company's main activity was the design and construction of complex structures and reticular steel structures. Afterwards, SOMMA became a company specialized in the design and manufacturing of structural bearings, anti-seismic devices and expansion joints.

Today, SOMMA is a **LEADING COMPANY** in the production of elastomeric bearings, designed according to the UNI EN 1337-3 or the AASHTO.

ELASTOMERIC BEARING ESAFLON TYPE

ESAFLON devices are structural bearings realized by alternating elastomeric layers and steel plates bonded to the elastomer through a vulcanization process.

They shall be designed to accommodate translational movements in any direction and rotational movements about any axis by elastic deformation.

Steel plates increase considerably the device's stiffness under vertical loads not modifying its behavior under horizontal loads.

KEY TO LABEL:

ESA AXBXH: Elastomeric bearing ESAFLON type with the following dimensions:

A = Dimension of the elastomer in longitudinal direction

B = Dimension of the elastomer in transversal direction

H = Total height

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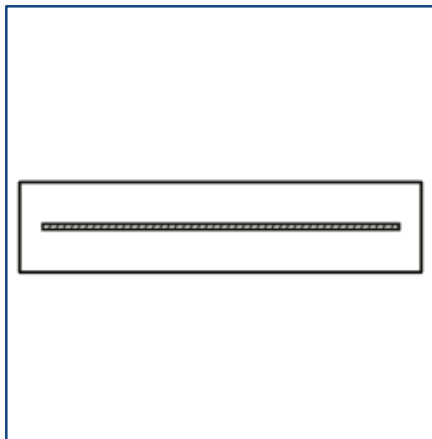
PRODUCTS

Elastomeric bearings
ESAFILON type



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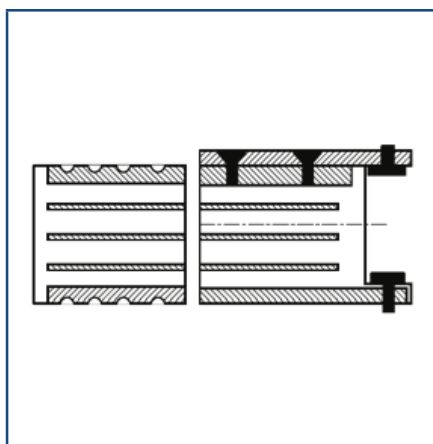
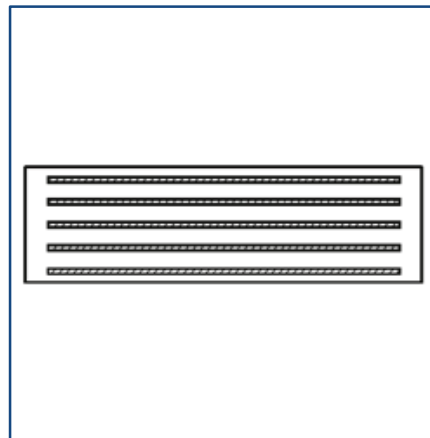


TYPE A:

Laminated bearing fully covered with elastomer comprising only one steel reinforcing plate.

TYPE B:

Laminated bearing fully covered with elastomer comprising at least two steel reinforcing plates.

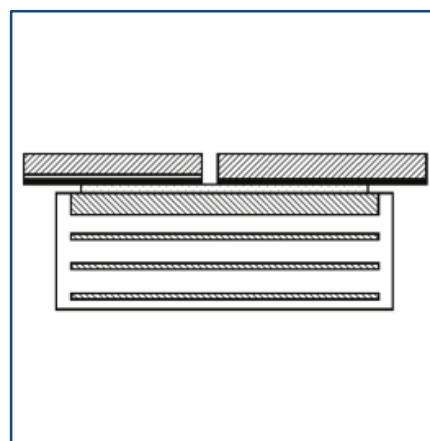


TYPE C:

Laminated bearing with outer steel plates (profiled or allowing fixing). NOTE the sketch shows examples of a new fixing methods; other methods can be used by agreement.

TYPE E:

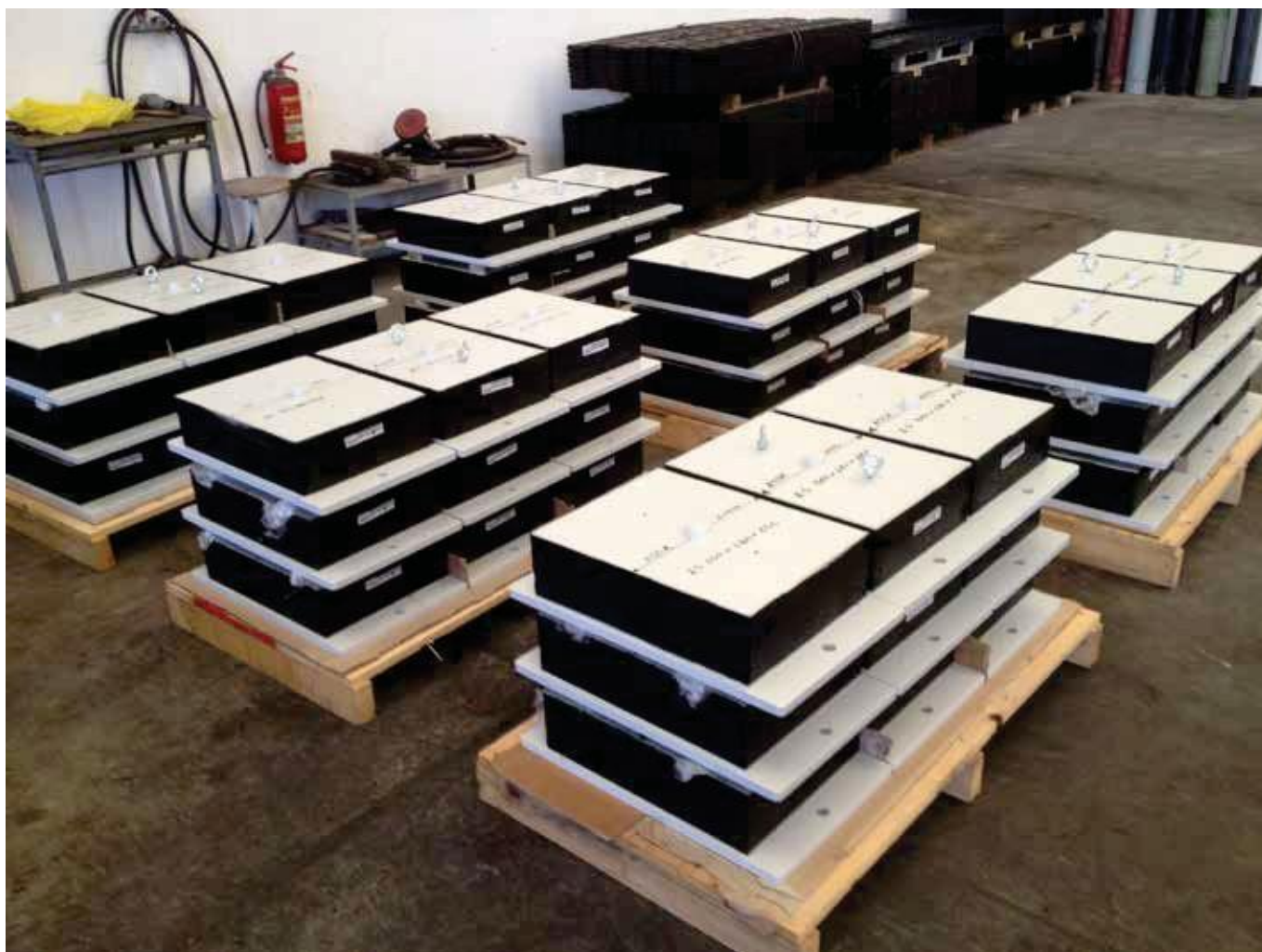
Type C with one outer plate bonded to the elastomer and PTFE sheet recessed in the steel.



BEARING'S ELEMENTS AND MATERIALS

ELEMENT	MATERIAL	STANDARD
ELASTOMERO	SHA3 60	EN 1337 / ASTM
PIASTRA DIRINFORZO	S275	EN 10025
PIASTRE DI RINFORZO ESTERNE	S275	EN 10025
ANCORAGGI	C45 BON/39NICRMO3	EN 10083

Bearings are designed and produced according to EN1337 or AASHTO.



IDENTIFICATION LABEL

 	DISPOSITIVE TYPE	YEAR	JOB	Ned,max SLU (kN)	Vc,max SLU (kN)	Disp. X (mm)
	DISPOSITIVE CODE	ORDER	SERIAL NUMBER	RANK	Vy,max SLU (kN)	Disp. Y (mm)
	2204-CPR-0367.1.m-2013					

INSTALLATION

PRELIMINARY STEP

With reference to the design drawings, check:

- 1) The positions of the bearing and its correct orientation

Check on the identification labels:

- 1) Type and model, vertical and horizontal load
- 2) Displacement allowed, movements and directions

Check, on site:

- 1) Accuracy and consistence of the concrete plinth, and dimensions of holes for anchors, if expected
- 2) Horizontality and finishing of the plinth

PLACEMENT OF THE BEARING

- 1) Locate the bearing at the correct position.
- 2) Ensure on the correct horizontality of the bearing
- 3) Connect the upper and lower dowels
- 4) Proceed with the cast of bedding mortar.
 - a) Be placed on a cambered bed of stiffly plastic mortar in such a way that excess mortar can be squeezed out on the sides; or
 - b) Be bedded by pouring or grouting using free flowing mortar; care shall be taken for an appropriate ventilator. The mortar shall be low shrinkage
- 5) After the completion of the deck, remove the temporary assembling
- 6) Clean the bearings, by removing all the residual of concrete and dirt and check the coating protection, if necessary reinstate eventual coating losses
- 7) Fill the holes of temporary assembling with silicon sealant to avoid starting corrosion.

For assembly assistance of the bearings in conditions different from those described above, please contact our geral@cortartec.net





ELASTOMERIC BEARINGS

TYPE B

C1: Max vertical load
Elastomer shear strain: $\hat{U} = 0,3$

Rotation:
 $I_{long} = 0,005 \text{ rad}$
 $I_{trav} = 0,003 \text{ rad}$

C2: Max horizontal load
Elastomer shear strain: $\hat{U} = 1$

Rotation:
 $I_{long} = 0,005 \text{ rad}$
 $I_{trav} = 0,003 \text{ rad}$

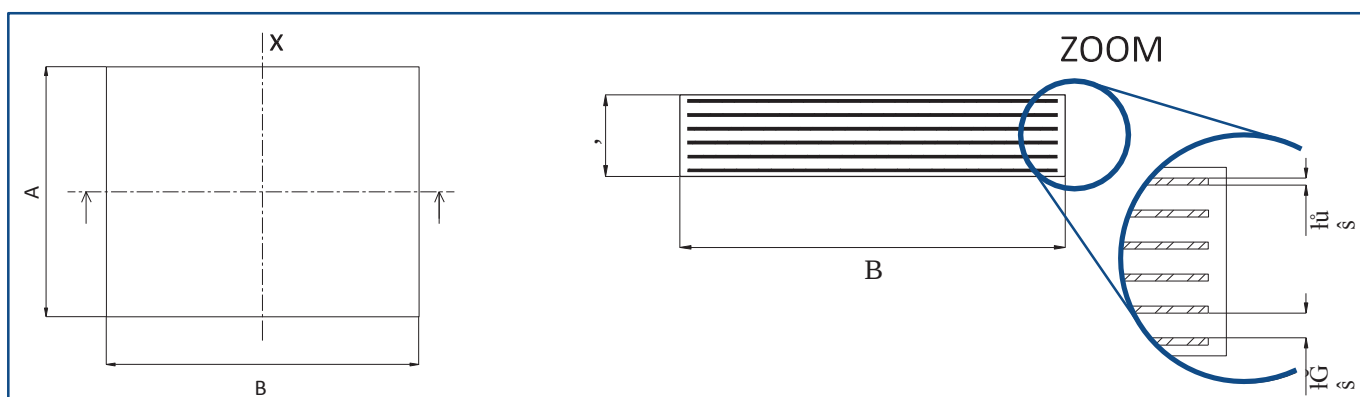
TYPE	C1: Max vertical load				C2: Max horizontal load			Stiffness		Dimensions					Weight	
	F_{zd}	$F_{z,min}$	F_{xyd}	s_{eq}	F_{zd}	F_{xyd}	s_{eq}	K_H	K_V	A	B	H	n_{ei}	t_{ei}	t_{ii}	W
	[kN]	[kN]	[kN]	[mm]	[kN]	[kN]	[mm]	[kN/mm]	[kN/mm]	[mm]	[mm]	[mm]		[mm]	[mm]	[kg]
ESA 100x150x28	236	42	4,1	4,5	190	13,5	15,0	0,90	79	100	150	28	3	5	2	1,4
ESA 100x150x42	136	55	4,1	7,5	107	13,5	25,0	0,54	53	100	150	42	5	5	2	2,1
ESA 100x150x56	94	70	4,1	10,5	65	13,5	35,0	0,39	40	100	150	56	7	5	2	2,8
ESA 100x200x28	348	53	5,4	4,5	275	18,0	15,0	1,20	132	100	200	28	3	5	2	1,9
ESA 100x200x42	206	69	5,4	7,5	162	18,0	25,0	0,72	88	100	200	42	5	5	2	2,8
ESA 100x200x56	142	87	5,4	10,5	98	18,0	35,0	0,51	66	100	200	56	7	5	2	3,7
ESA 150x200x31	597	77	8,1	5,4	490	27,0	18,0	1,50	213	150	200	31	3	6	2	3,1
ESA 150x200x47	468	82	8,1	9,0	393	27,0	30,0	0,90	140	150	200	47	5	6	2	4,6
ESA 150x200x63	325	105	8,1	12,6	250	25,7	40,0	0,64	104	150	200	63	7	6	2	6,2
ESA 150x250x31	795	97	10,1	5,4	275	33,8	18,0	1,88	318	150	250	31	3	6	2	3,8
ESA 150x250x47	648	100	10,1	9,0	162	33,8	30,0	1,13	209	150	250	47	5	6	2	5,8
ESA 150x250x63	450	130	10,1	12,6	98	33,8	42,0	0,80	155	150	250	63	7	6	2	7,7
ESA 150x300x31	960	118	12,2	5,4	780	40,5	18,0	2,25	431	150	300	31	3	6	2	4,6
ESA 150x300x47	836	120	12,2	9,0	702	40,5	30,0	1,35	283	150	300	47	5	6	2	7,0
ESA 150x300x63	581	150	12,2	12,6	447	40,5	42,0	0,96	211	150	300	63	7	6	2	9,3
ESA 200x250x34	1096	135	13,5	6,3	920	45,0	21,0	2,14	401	200	250	34	3	7	2	5,5
ESA 200x250x52	1062	130	13,5	10,5	915	45,0	35,0	1,29	260	200	250	52	5	7	2	8,3
ESA 200x250x70	740	148	13,5	14,7	590	45,0	49,0	0,92	193	200	250	70	7	7	2	11,1
ESA 200x300x34	1370	160	16,2	6,3	1140	54,0	21,0	2,57	556	200	300	34	3	7	2	6,6
ESA 200x300x52	1340	160	16,2	10,5	1150	54,0	35,0	1,54	361	200	300	52	5	7	2	10,0
ESA 200x300x70	960	175	16,2	14,7	780	54,0	49,0	1,10	268	200	300	70	7	7	2	13,4
ESA 200x350x38	1620	190	18,9	6,3	1330	63,0	21,0	3,00	724	200	350	38	3	7	3	9,7
ESA 200x350x58	1730	185	18,9	10,5	1390	63,0	35,0	1,80	470	200	350	58	5	7	3	14,7
ESA 200x350x78	1205	200	18,9	14,7	970	63,0	49,0	1,29	348	200	350	78	7	7	3	19,7
ESA 200x400x38	1820	215	21,6	6,3	1470	72,0	21,0	3,43	899	200	400	38	3	7	3	11,1
ESA 200x400x58	2080	215	21,6	10,5	1600	72,0	35,0	2,06	584	200	400	58	5	7	3	16,9
ESA 200x400x78	1440	230	21,6	14,7	1150	72,0	49,0	1,47	433	200	400	78	7	7	3	22,6
ESA 250x300x41	1780	205	20,3	7,2	1475	67,5	24,0	2,81	631	250	300	41	3	8	3	10,9
ESA 250x300x63	1920	200	20,3	12,0	1505	67,5	40,0	1,69	407	250	300	63	5	8	3	16,6
ESA 250x300x85	1360	200	20,3	16,8	1140	63,0	56,0	1,21	300	250	300	85	7	8	3	22,3
ESA 250x400x41	2450	275	27,0	7,2	2005	90,0	24,0	3,75	1048	250	400	41	3	8	3	14,6
ESA 250x400x63	2650	270	27,0	12,0	2155	90,0	40,0	2,25	675	250	400	63	5	8	3	22,2
ESA 250x400x85	2050	265	27,0	16,8	1750	90,0	56,0	1,61	498	250	400	85	7	8	3	29,8
ESA 250x500x41	2850	345	33,8	7,2	2300	112,5	24,0	4,69	1506	250	500	41	3	8	3	18,3
ESA 250x500x63	3335	340	33,8	12,0	2695	112,5	40,0	2,81	970	250	500	63	5	8	3	27,9
ESA 250x500x85	2830	335	33,8	16,8	2380	112,5	56,0	2,01	716	250	500	85	7	8	3	37,4
ESA 300x400x48	3020	335	32,4	8,1	2485	108,0	27,0	4,00	1139	300	400	48	3	9	4	21,9
ESA 300x400x74	3200	325	32,4	13,5	2660	108,0	45,0	2,40	729	300	400	74	5	9	4	33,3
ESA 300x400x100	2620	320	32,4	18,9	2285	108,0	63,0	1,71	536	300	400	100	7	9	4	44,7
ESA 300x500x48	3690	420	40,5	8,1	3005	135,0	27,0	5,00	1663	300	500	48	3	9	4	27,4
ESA 300x500x74	4000	410	40,5	13,5	3425	135,0	45,0	3,00	1064	300	500	74	5	9	4	41,8
ESA 300x500x100	3690	400	40,5	18,9	3150	135,0	63,0	2,14	782	300	500	100	7	9	4	56,1
ESA 300x600x48	4020	500	48,6	8,1	3190	162,0	27,0	6,00	2223	300	600	48	3	9	4	33,0
ESA 300x600x74	4850	495	48,6	13,5	4010	162,0	45,0	3,60	1423	300	600	74	5	9	4	50,2
ESA 300x600x100	4750	485	48,6	18,9	4100	162,0	63,0	2,57	1046	300	600	100	7	9	4	67,5

TYPE	F_{zd}	$F_{z,min}$	F_{xyd}	s_{eq}	F_{zd}	F_{xyd}	s_{eq}	K_H	K_V	A	B	H	n_{ei}	t_{ei}	t_{li}	W
	[kN]	[kN]	[kN]	[mm]	[kN]	[kN]	[mm]	[kN/mm]	[kN/mm]	[mm]	[mm]	[mm]		[mm]	[mm]	[kg]
ESA 350x500x51	4450	490	47,3	9,0	3650	157,5	30,0	5,25	1758	350	500	51	3	10	4	33,2
ESA 350x500x79	4700	480	47,3	15,0	4100	157,5	50,0	3,15	1119	350	500	79	5	10	4	50,6
ESA 350x500x107	4500	470	47,3	21,0	3850	157,5	70,0	2,25	820	350	500	107	7	10	4	68,1
ESA 350x600x51	5120	590	56,7	9,0	4090	189,0	30,0	6,30	2377	350	600	51	3	10	4	39,9
ESA 350x600x79	5700	580	56,7	15,0	4900	189,0	50,0	3,78	1513	350	600	79	5	10	4	60,9
ESA 350x600x107	5500	570	56,7	21,0	4700	189,0	70,0	2,70	1109	350	600	107	7	10	4	81,9
ESA 350x700x51	5350	690	66,2	9,0	4130	220,5	30,0	7,35	3028	350	700	51	3	10	4	46,6
ESA 350x700x79	6700	680	66,2	15,0	5590	220,5	50,0	4,41	1927	350	700	79	5	10	4	71,1
ESA 350x700x107	6570	670	66,2	21,0	5550	220,5	70,0	3,15	1413	350	700	107	7	10	4	95,7
ESA 400x500x65	5530	560	54,0	12,0	4750	180,0	40,0	4,50	1780	400	500	65	4	10	4	48,0
ESA 400x500x93	5400	550	54,0	18,0	4800	180,0	60,0	3,00	1232	400	500	93	6	10	4	68,0
ESA 400x500x121	5350	540	54,0	24,0	4500	180,0	80,0	2,25	942	400	500	121	8	10	4	88,0
ESA 400x600x65	6600	670	64,8	12,0	5620	216,0	40,0	5,40	2420	400	600	65	4	10	4	57,7
ESA 400x600x93	6400	660	64,8	18,0	5800	216,0	60,0	3,60	1675	400	600	93	6	10	4	81,8
ESA 400x600x121	6400	650	64,8	24,0	5400	216,0	80,0	2,70	1281	400	600	121	8	10	4	105,8
ESA 400x700x65	7780	790	75,6	12,0	6050	252,0	40,0	6,30	3093	400	700	65	4	10	4	67,4
ESA 400x700x93	7650	780	75,6	18,0	6800	252,0	60,0	4,20	2143	400	700	93	6	10	4	95,5
ESA 400x700x121	7500	770	75,6	24,0	6300	252,0	80,0	3,15	1638	400	700	121	8	10	4	123,6
ESA 450x600x74	7400	770	72,9	13,2	6450	243,0	44,0	5,52	2415	450	600	74	4	11	5	77,4
ESA 450x600x106	7400	760	72,9	19,8	6500	243,0	66,0	3,68	1667	450	600	106	6	11	5	109,7
ESA 450x600x138	7200	750	72,9	26,4	6200	243,0	88,0	2,76	1272	450	600	138	8	11	5	141,9
ESA 450x700x74	8750	900	85,1	13,2	7250	283,5	44,0	6,44	3113	450	700	74	4	11	5	90,5
ESA 450x700x106	8650	890	85,1	19,8	7650	283,5	66,0	4,30	2148	450	700	106	6	11	5	128,1
ESA 450x700x138	8500	875	85,1	26,4	7250	283,5	88,0	3,22	1640	450	700	138	8	11	5	165,8
ESA 450x800x74	9800	1050	97,2	13,2	7650	324,0	44,0	7,36	3841	450	800	74	4	11	5	103,5
ESA 450x800x106	9800	1000	97,2	19,8	8700	324,0	66,0	4,91	2651	450	800	106	6	11	5	146,6
ESA 450x800x138	9750	985	97,2	26,4	8200	324,0	88,0	3,68	2023	450	800	138	8	11	5	189,7
ESA 500x600x78	8300	860	81,0	14,4	7250	270,0	48,0	5,63	2385	500	600	78	4	12	5	88,5
ESA 500x600x112	8100	850	81,0	21,6	7300	270,0	72,0	3,75	1642	500	600	112	6	12	5	125,6
ESA 500x600x146	8100	835	81,0	28,8	6900	270,0	96,0	2,81	1251	500	600	146	8	12	5	162,7
ESA 500x700x78	9700	1050	94,5	14,4	8300	315,0	48,0	6,56	3098	500	700	78	4	12	5	103,5
ESA 500x700x112	9650	990	94,5	21,6	8600	315,0	72,0	4,38	2132	500	700	112	6	12	5	146,8
ESA 500x700x146	9500	970	94,5	28,8	8100	315,0	96,0	3,28	1625	500	700	146	8	12	5	190,1
ESA 500x800x78	11000	1150	108,0	14,4	9050	360,0	48,0	7,50	3845	500	800	78	4	12	5	118,4
ESA 500x800x112	11000	1120	108,0	21,6	9850	360,0	72,0	5,00	2646	500	800	112	6	12	5	168,0
ESA 500x800x146	10800	1100	108,0	28,8	9300	360,0	96,0	3,75	2017	500	800	146	8	12	5	217,5
ESA 600x800x105	13400	1400	129,6	21,00	12200	432,0	70,0	6,17	3065	600	800	105	5	14	5	181,8
ESA 600x800x143	13200	1350	129,6	29,40	11600	432,0	98,0	4,41	2232	600	800	143	7	14	5	245,2
ESA 600x800x181	12900	1320	129,6	37,80	10800	432,0	126,0	3,43	1755	600	800	181	9	14	5	308,7

KEY LABEL

F_{zd} : Maximum vertical load.
 $F_{z,min}$: Minimum vertical load.
 F_{xyd} : Horizontal load.
 s_{eq} : Equivalent displacement.
 K_H : Horizontal stiffness.
 K_V : Vertical stiffness.
A: Dimension of the elastomer in longitudinal

direction.
B: Dimension of the elastomer in transversal direction.
H: Height of bearing.
 n_{ei} : Number of elastomeric layers.
 t_{ei} : Thickness of an elastomeric layer.
 t_{li} : Thickness of a steel plate.
W: Weight of the bearing.



ELASTOMERIC BEARINGS TYPE C

C1: Max vertical load
Elastomer shear strain: $\hat{\gamma} = 0,3$

Rotation:
 $I_{\text{long}} = 0,005 \text{ rad}$
 $I_{\text{trasv}} = 0,003 \text{ rad}$

C2: Max horizontal load
Elastomer shear strain: $\hat{\gamma} = 1$

Rotation:
 $I_{\text{long}} = 0,005 \text{ rad}$
 $I_{\text{trasv}} = 0,003 \text{ rad}$

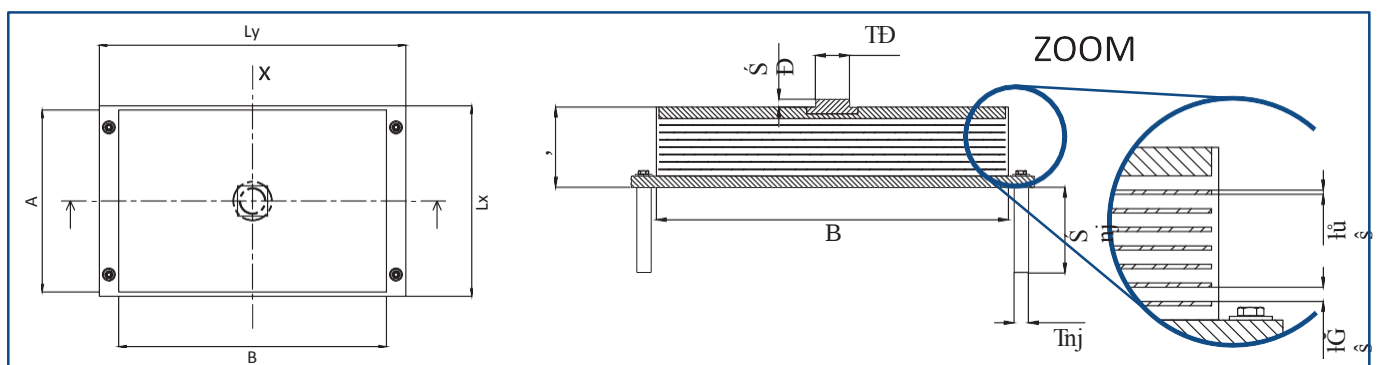
TYPE	C1: Max vertical load				C2: Max horizontal load			Stiffness			Dimensions														Weight	
	F _{zd}	F _{z,min}	F _{xyd}	s _{eq}	F _{zd}	F _{xyd}	s _{eq}	K _H	K _V	A	B	H	n _{ei}	t _{ei}	T _q	t _{li}	L _x	L _y	F _p	H _p	n _z	F _z	h _z	W		
	[kN]	[kN]	[kN]	[mm]	[kN]	[kN]	[mm]	[kN/mm]	[kN/mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	
ESA 100x150x49	236	32	4,1	4,5	197	13,5	15,0	0,90	106	100	150	49	3	5	15	2	120	260	30	13	w	20	200	6,9		
ESA 100x150x63	136	20	4,1	7,5	107	13,5	25,0	0,54	64	100	150	63	5	5	25	2	120	260	30	13	2	20	200	7,5		
ESA 100x150x77	94	14	4,1	10,5	65	13,5	35,0	0,39	46	100	150	77	7	5	35	2	120	260	30	13	2	20	200	8,1		
ESA 100x200x49	357	53	5,4	4,5	299	18,0	15,0	1,20	177	100	200	49	3	5	15	2	120	310	30	13	2	20	200	8,4		
ESA 100x200x63	206	32	5,4	7,5	162	18,0	25,0	0,72	106	100	200	63	5	5	25	2	120	310	30	13	2	20	200	9,2		
ESA 100x200x77	142	23	5,4	10,5	98	18,0	35,0	0,51	76	100	200	77	7	5	35	2	120	310	30	13	2	20	200	9,9		
ESA 150x200x52	597	128	8,1	5,4	518	27,0	18,0	1,50	272	150	200	52	3	6	18	2	170	310	30	13	2	20	200	11,9		
ESA 150x200x68	468	77	8,1	9,0	393	27,0	30,0	0,90	163	150	200	68	5	6	30	2	170	310	30	13	2	20	200	13,2		
ESA 150x200x84	325	55	8,1	12,6	250	27,0	42,0	0,64	117	150	200	84	7	6	42	2	170	310	30	13	2	20	200	14,5		
ESA 150x250x52	827	190	10,1	5,4	717	33,8	18,0	1,88	406	150	250	52	3	6	18	2	170	360	30	13	2	20	200	14,1		
ESA 150x250x68	648	114	10,1	9,0	544	33,8	30,0	1,13	244	150	250	68	5	6	30	2	170	360	30	13	2	20	200	15,7		
ESA 150x250x84	450	82	10,1	12,6	346	33,8	42,0	0,80	174	150	250	84	7	6	42	2	170	360	30	13	2	20	200	17,3		
ESA 150x300x52	1067	258	12,2	5,4	926	40,5	18,0	2,25	552	150	300	52	3	6	18	2	170	410	30	13	2	20	200	16,3		
ESA 150x300x68	836	155	12,2	9,0	702	40,5	30,0	1,35	331	150	300	68	5	6	30	2	170	410	30	13	2	20	200	18,3		
ESA 150x300x84	581	111	12,2	12,6	447	40,5	42,0	0,96	236	150	300	84	7	6	42	2	170	410	30	13	2	20	200	20,2		
ESA 200x250x55	1096	315	13,5	6,3	990	45,0	21,0	2,14	497	200	250	55	3	7	21	2	220	360	30	13	2	20	200	18,8		
ESA 200x250x73	1062	189	13,5	10,5	915	45,0	35,0	1,29	298	200	250	73	5	7	35	2	220	360	30	13	2	20	200	21,5		
ESA 200x250x91	740	135	13,5	14,7	590	45,0	49,0	0,92	213	200	250	91	7	7	49	2	220	360	30	13	2	20	200	24,1		
ESA 200x300x55	1370	437	16,2	6,3	1260	54,0	21,0	2,57	689	200	300	55	3	7	21	2	220	410	30	13	2	20	200	21,9		
ESA 200x300x73	1340	263	16,2	10,5	1150	54,0	35,0	1,54	414	200	300	73	5	7	35	2	220	410	30	13	2	20	200	25,1		
ESA 200x300x91	960	188	16,2	14,7	780	54,0	49,0	1,10	295	200	300	91	7	7	49	2	220	410	30	13	2	20	200	28,3		
ESA 200x350x57	1785	568	18,9	6,3	1616	63,0	21,0	3,00	896	200	350	57	3	7	21	3	220	460	30	13	2	20	200	24,9		
ESA 200x350x77	1730	341	18,9	10,5	1494	63,0	35,0	1,80	538	200	350	77	5	7	35	3	220	460	30	13	2	20	200	28,7		
ESA 200x350x97	1207	244	18,9	14,7	971	63,0	49,0	1,29	384	200	350	97	7	7	49	3	220	460	30	13	2	20	200	32,4		
ESA 200x400x57	2146	706	21,6	6,3	1943	72,0	21,0	3,43	1114	200	400	57	3	7	21	3	220	510	30	13	2	20	200	28,0		
ESA 200x400x77	2080	424	21,6	10,5	1796	72,0	35,0	2,06	668	200	400	77	5	7	35	3	220	510	30	13	2	20	200	32,4		
ESA 200x400x97	1451	303	21,6	14,7	1167	72,0	49,0	1,47	477	200	400	97	7	7	49	3	220	510	30	13	2	20	200	36,5		
ESA 250x300x60	1728	611	20,3	7,2	1619	67,5	24,0	2,81	763	250	300	60	3	8	24	3	270	420	40	13	2	30	200	29,4		
ESA 250x300x82	1888	367	20,3	12,0	1585	67,5	40,0	1,69	458	250	300	82	5	8	40	3	270	420	40	13	2	30	200	34,1		
ESA 250x300x104	1366	262	20,3	16,8	1126	67,5	56,0	1,21	327	250	300	104	7	8	56	3	270	420	40	13	2	30	200	38,9		
ESA 250x400x60	2630	1014	27,0	7,2	2464	90,0	24,0	3,75	1267	250	400	60	3	8	24	3	270	520	40	13	2	30	200	37,2		
ESA 250x400x82	2870	609	27,0	12,0	2411	90,0	40,0	2,25	760	250	400	82	5	8	40	3	270	520	40	13	2	30	200	43,6		
ESA 250x400x104	2878	435	27,0	16,8	1713	90,0	56,0	1,61	543	250	400	104	7	8	56	3	270	520	40	13	2	30	200	50,0		
ESA 250x500x60	3583	1457	33,8	7,2	3356	112,5	24,0	4,69	1820	250	500	60	3	8	24	3	270	620	40	13	2	30	200	45,1		
ESA 250x500x82	3606	874	33,8	12,0	3163	112,5	40,0	2,81	1092	250	500	82	5	8	40	3	270	620	40	13	2	30	200	53,1		
ESA 250x500x104	2831	625	33,8	16,8	2334	112,5	56,0	2,01	780	250	500	104	7	8	56	3	270	620	40	13	2	30	200	61,1		
ESA 300x400x75	3029	1306	32,4	8,1	2919	108,0	27,0	4,00	1350	300	400	75	3	9	27	4	320	520	40	18	2	30	200	57,3		
ESA 300x400x101	3384	783	32,4	13,5	2903	108,0	45,0	2,40	810	300	400	101	5	9	45	4	320	520	40	18	2	30	200	67,1		
ESA 300x400x127	2698	560	32,4	18,9	2259	108,0	63,0	1,71	579	300	400	127	7	9	63	4	320	520	40	18	2	30	200	76,9		
ESA 300x500x75	4168	1906	40,5	8,1	4018	135,0	27,0	5,00	1972	300	500	75	3	9	27	4	320	620	40	18	2	30	200	69,7		
ESA 300x500x101	4658	1143	40,5	13,5	3995	135,0	45,0	3,00	1183	300	500	101	5	9	45	4	320	620	40	18	2	30	200	82,0		
ESA 300x500x127	3713	817	40,5	18,9	3109	135,0	63,0	2,14	845	300	500	127	7	9	63	4	320	620	40	18	2	30	200	94,2		
ESA 300x600x75	5356	2548	48,6	8,1	5163	162,0	27,0	6,00	2635	300	600	75	3	9	27	4	320	720	40	18	2	30	200	82,1		
ESA 300x600x101	5986	1529	48,6	13,5	5134	162,0	45,0	3,60	1581	300	600	101	5	9	45	4	320	720	40	18	2	30	200	96,8		
ESA 300x600x127	4771	1092	48,6	18,9	3995	162,0	63,0	2,57	1129	300	600	127	7	9	63	4	320	720	40	18	2	30	200	111,5		
ESA 350x500x78	4661	2326	47,3	9,0	4607	157,5	30,0	5,25	2052	350	500	78	3	10	30	4	370	650	60	18	2	40	200	85,1		
ESA 350x500x106	5316	1396	47,3	15,0	4639	157,5	50,0	3,15	1231	350	500	106	5	10	50	4	370	650	60	18	2	40	200	99,9		
ESA 350x500x134	4571	997	47,3	21,0	3869	157,5	70,0	2,25	879	350	500	134	7	10	70	4	370	650	60	18	2	40	200	114,6		
ESA 350x600x78	6032	3144	56,7	9,0	5961	189,0	30,0	6,30	2774	350	60															

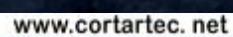
TYPE	F_{zd}	$F_{z,min}$	F_{xyd}	s_{eq}	F_{zd}	F_{xyd}	s_{eq}	K_H	K_V	A	B	H	n_{ei}	t_{ei}	T_q	t_{li}	L_x	L_y	F_p	H_p	n_z	F_z	h_z	W
	[kN]	[kN]	[kN]	[mm]	[kN]	[kN]	[mm]	[kN/mm]	[kN/mm]	[mm]	[mm]	[mm]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		[mm]	[mm]	[kg]
ESA 400x500x92	5790	2605	54,0	12,0	5641	180,0	40,0	4,50	2003	400	500	92	4	10	40	4	420	650	60	18	2	40	200	104,9
ESA 400x500x120	6276	1736	54,0	18,0	5567	180,0	60,0	3,00	1335	400	500	120	6	10	60	4	420	650	60	18	2	40	200	121,8
ESA 400x500x148	5695	1303	54,0	24,0	4824	180,0	80,0	2,25	1002	400	500	148	8	10	80	4	420	650	60	18	2	40	200	138,7
ESA 400x600x92	7538	3541	64,8	12,0	7110	216,0	40,0	5,40	2723	400	600	92	4	10	40	4	420	750	60	18	2	40	200	123,3
ESA 400x600x120	7757	2361	64,8	18,0	6703	216,0	60,0	3,60	1815	400	600	120	6	10	60	4	420	750	60	18	2	40	200	143,6
ESA 400x600x148	7415	1771	64,8	24,0	6280	216,0	80,0	2,70	1362	400	600	148	8	10	80	4	420	750	60	18	2	40	200	163,9
ESA 400x700x92	8980	4528	75,6	12,0	8315	252,0	40,0	6,30	3483	400	700	92	4	10	40	4	420	850	60	18	2	40	200	141,6
ESA 400x700x120	8838	3019	75,6	18,0	7840	252,0	60,0	4,20	2322	400	700	120	6	10	60	4	420	850	60	18	2	40	200	165,3
ESA 400x700x148	8695	2264	75,6	24,0	7365	252,0	80,0	3,15	1741	400	700	148	8	10	80	4	420	850	60	18	2	40	200	189,0
ESA 450x600x99	8135	3946	72,9	13,2	8029	243,0	44,0	5,52	2690	450	600	99	4	11	44	5	470	750	60	18	2	40	200	145,5
ESA 450x600x131	9145	2631	72,9	19,8	8089	243,0	66,0	3,68	1793	450	600	131	6	11	66	5	470	750	60	18	2	40	200	173,1
ESA 450x600x163	8386	1973	72,9	26,4	7137	243,0	88,0	2,76	1345	450	600	163	8	11	88	5	470	750	60	18	2	40	200	200,7
ESA 450x700x99	10141	5086	85,1	13,2	10010	283,5	44,0	6,44	3467	450	700	99	4	11	44	5	470	850	60	18	2	40	200	167,3
ESA 450x700x131	11344	3391	85,1	19,8	10084	283,5	66,0	4,30	2312	450	700	131	6	11	66	5	470	850	60	18	2	40	200	199,6
ESA 450x700x163	10455	2543	85,1	26,4	8898	283,5	88,0	3,22	1734	450	700	163	8	11	88	5	470	850	60	18	2	40	200	231,9
ESA 450x800x99	12231	6275	97,2	13,2	12055	324,0	44,0	7,36	4278	450	800	99	4	11	44	5	470	950	60	18	2	40	200	189,2
ESA 450x800x131	12988	4183	97,2	19,8	11560	324,0	66,0	4,91	2852	450	800	131	6	11	66	5	470	950	60	18	2	40	200	226,1
ESA 450x800x163	12591	3138	97,2	26,4	10716	324,0	88,0	3,68	2139	450	800	163	8	11	88	5	470	950	60	18	2	40	200	263,1
ESA 500x600x103	8667	4303	81,0	14,4	8652	270,0	48,0	5,63	2634	500	600	103	4	12	48	5	520	750	60	18	2	40	200	162,5
ESA 500x600x137	9821	2869	81,0	21,6	8755	270,0	72,0	3,75	1756	500	600	137	6	12	72	5	520	750	60	18	2	40	200	194,0
ESA 500x600x171	9294	2152	81,0	28,8	7940	270,0	96,0	2,81	1317	500	600	171	8	12	96	5	520	750	60	18	2	40	200	225,4
ESA 500x700x103	10850	5588	94,5	14,4	10831	315,0	48,0	6,56	3421	500	700	103	4	12	48	5	520	850	60	18	2	40	200	187,0
ESA 500x700x137	11592	3725	94,5	21,6	10344	315,0	72,0	4,38	2280	500	700	137	6	12	72	5	520	850	60	18	2	40	200	223,8
ESA 500x700x171	11413	2794	94,5	28,8	9750	315,0	96,0	3,28	1710	500	700	171	8	12	96	5	520	850	60	18	2	40	200	260,5
ESA 500x800x103	13112	6935	108,0	14,4	12524	360,0	48,0	7,50	4246	500	800	103	4	12	48	5	520	950	60	18	2	40	200	211,5
ESA 500x800x137	13272	4623	108,0	21,6	11843	360,0	72,0	5,00	2830	500	800	137	6	12	72	5	520	950	60	18	2	40	200	253,6
ESA 500x800x171	13068	3468	108,0	28,8	11163	360,0	96,0	3,75	2123	500	800	171	8	12	96	5	520	950	60	18	2	40	200	295,7
ESA 600x800x135	14510	6460	129,6	21,00	13260	432,0	70,0	6,17	3285	600	800	135	5	14	70	5	750	820	80	23	4	40	200	317,0
ESA 600x800x173	14510	4614	129,6	29,40	12540	432,0	98,0	4,41	2346	600	800	173	7	14	98	5	750	820	80	23	4	40	200	370,0
ESA 600x800x211	14080	3589	129,6	37,80	11830	432,0	126,0	3,43	1825	600	800	211	9	14	126	5	750	820	80	23	4	40	200	423,0
ESA 600x1000x135	18180	9246	162,0	21,0	16610	540,0	70,0	7,71	4702	600	1000	135	5	14	70	5	750	1020	80	23	4	40	200	394,0
ESA 600x1000x173	17910	6605	162,0	29,4	15720	540,0	98,0	5,51	3358	600	1000	173	7	14	98	5	750	1020	80	23	4	40	200	459,0
ESA 600x1000x211	17630	5137	162,0	37,8	14820	540,0	126,0	4,29	2612	600	1000	211	9	14	126	5	750	1020	80	23	4	40	200	526,0
ESA 700x900x145	16740	8800	170,1	24,00	15330	567,0	80,0	7,09	3826	700	900	145	5	16	80	5	850	920	80	23	4	40	200	416,0
ESA 700x900x187	16500	6286	170,1	33,60	14520	567,0	112,0	5,06	2733	700	900	187	7	16	112	5	850	920	80	23	4	40	200	489,0
ESA 700x900x229	16260	4889	170,1	43,20	13720	567,0	144,0	3,94	2126	700	900	229	9	16	144	5	850	920	80	23	4	40	200	562,0
ESA 700x1100x145	20500	12185	207,9	24,0	18750	693,0	80,0	8,66	5298	700	1100	145	5	16	80	5	850	1120	80	23	4	40	200	508,00
ESA 700x1100x187	20200	8704	207,9	33,6	17750	693,0	112,0	6,19	3784	700	1100	187	7	16	112	5	850	1120	80	23	4	40	200	597,00
ESA 700x1100x229	19900	6770	207,9	43,2	16800	693,0	144,0	4,81	2943	700	1100	229	9	16	144	5	850	1120	80	23	4	40	200	686,00
ESA 800x1000x165	18950	11489	216,0	27,00	17350	720,0	90,0	8,00	4363	800	1000	165	5	18	90	5	1000	1020	100	28	4	50	200	619,00
ESA 800x1000x211	18680	8207	216,0	37,80	16500	720,0	126,0	5,71	3116	800	1000	211	7	18	126	5	1000	1020	100	28	4	50	200	716,00
ESA 800x1000x257	18400	6383	216,0	48,60	15600	720,0	162,0	4,44	2424	800	1000	257	9	18	162	5	1000	1020	100	28	4	50	200	813,00
ESA 800x1200x165	22750	15475	259,2	27,0	20900	864,0	90,0	9,60	5876	800	1200	165	5	18	90	5	1000	1220	100	28	4	50	200	741,00
ESA 800x1200x211	22450	11054	259,2	37,8	19800	864,0	126,0	6,86	4197	800	1200	211	7	18	126	5	1000	1220	100	28	4	50	200	856,00
ESA 800x1200x257	22100	8597	259,2	48,6	18750	864,0	162,0	5,33	3265	800	1200	257	9	18	162	5	1000	1220	100	28	4	50	200	972,00

KEY LABEL

F_{zd} : Maximum vertical load.
 $F_{z,min}$: Minimum vertical load.
 F_{xyd} : Horizontal load.
 s_{eq} : Equivalent displacement.
 K_H : Horizontal stiffness.
 K_V : Vertical stiffness.
A: Dimension of the elastomer in longitudinal direction.
B: Dimension of the elastomer in transversal direction.
H: Height of bearing.
 n_{ei} : Number of elastomeric layers.

t_{ei} : Thickness of the elastomeric layer.
 T_q : Total height of elastomer.
 t_{li} : Thickness of the steel plate.
 L_x : Length of the steel plate in longitudinal direction.
 L_y : Length of the steel plate in transversal direction.
 F_p : Diameter of the pin.
 h_p : Height of the pin.
 n_z : Number of anchors.
 F_z : Diameter of anchors.
 h_z : Height of anchors.
W: Weight of the bearing.





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