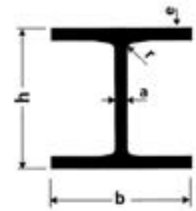
TRAVI HE

UNI 5397

(*) A = serie leggera
B = serie normale
M = serie rinforzata



designazione abbreviata (*)	sezione cm²	dimensioni						caratteristiche riferite asse neutro x - x		Y - Y	
		h mm	b mm	a mm	e mm	r mm	peso kg/m	Iy cm⁴	Ix Vx cm³	Iy cm⁴	Iy Vy cm³
HE 100 A	21.2	96	100	5	8	12	16.7	349	73	134	27
100 B	26.0	100	100	6	10	12	20.4	450	90	167	33
100 M	53.2	120	106	12	20	12	41.8	1143	190	399	75
HE 120 A	25.3	114	120	5	8	12	19.9	606	106	231	38
120 B	34.0	120	120	6.5	11	12	26.7	864	144	318	53
120 M	66.4	140	126	12.5	21	12	52.1	2018	288	703	112
HE 140 A	31.4	133	140	5.5	8.5	12	24.7	1033	155	389	56
140 B	43.0	140	140	7	12	12	33.7	1509	216	550	79
140 M	80.6	160	146	13	22	12	63.2	3291	411	1144	157
HE 160 A	38.8	152	160	6	9	15	30.4	1673	220	616	77
160 B	54.3	160	160	8	13	15	42.6	2492	311	889	111
160 M	97.1	180	166	14	23	15	76.2	5098	566	1759	212
HE 180 A	45.3	171	180	6	9.5	15	35.5	2510	294	925	103
180 B	65.3	180	180	8.5	14	15	51.2	3831	426	1363	151
180 M	113.3	200	186	14.5	24	15	88.9	7483	748	2580	277
HE 200 A	53.3	190	200	6.5	10	18	42.3	3692	389	1336	134
200 B	78.1	200	200	9	15	18	61.3	5696	570	2003	200
200 M	131.3	220	206	15	25	18	103	10642	967	3651	354
HE 220 A	64.3	210	220	7	11	18	50.5	5410	515	1955	178
220 B	91.0	220	220	9.5	16	18	71.5	8091	736	2843	258
220 M	149.4	240	226	15.5	26	18	117	14605	1220	5012	444
HE 240 A	76.8	230	240	7.5	12	21	60.3	7763	675	2769	231
240 B	106.0	240	240	10	17	21	83.2	11259	938	3923	327
240 M	199.6	270	248	18	32	21	157	24289	1800	8153	657
HE 260 A	86.8	250	260	7.5	12.5	24	68.2	10455	836	3668	282
260 B	118.4	260	260	10	17.5	24	93.0	14919	1150	5135	395
260 M	219.6	290	268	18	32.5	24	172	31307	2160	10449	780
HE 280 A	97.3	270	280	8	13	24	76.4	13673	1010	4763	340
280 B	131.4	280	280	10.5	18	24	103	19270	1380	6595	471
280 M	240.2	310	288	18.5	33	24	189	39547	2550	13163	914

TRAVI HE

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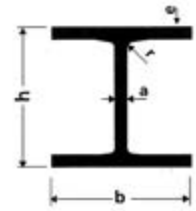


designazione abbreviata (*)	sezione cm²	dimensioni						caratteristiche riferite asse neutro x - x		Y - Y	
		h mm	b mm	a mm	e mm	r mm	peso kg/m	Iy cm⁴	Ix Vx cm³	Iy cm⁴	Iy Vy cm³
HE 300 A	112.5	290	300	8.5	14	27	88.3	18263	1260	6310	421
300 B	149.5	300	300	11	19	27	117	25166	1680	8563	571
300 M	303.1	340	310	21	39	27	238	59201	3480	19403	1250
HE 320 A	124.4	310	300	9	15.5	27	97.6	22928	1480	6985	466
320 B	161.3	320	300	11.5	20.5	27	127	30823	1930	9239	616
320 M	312.0	359	309	21	40	27	245	68135	3800	19709	1280
HE 340 A	133.5	330	300	9.5	16.5	27	105	27693	1680	7436	496
340 B	170.9	340	300	12	21.5	27	134	36656	2160	9690	646
340 M	315.8	377	309	21	40	27	248	76372	4050	19711	1280
HE 360 A	142.8	350	300	10	17.5	27	112	33090	1890	7887	526
360 B	180.6	360	300	12.5	22.5	27	142	43193	2400	10141	676
360 M	318.8	395	308	21	40	27	250	84867	4300	19522	1270
HE 400 A	159.0	390	300	11	19	27	125	45069	2310	8564	571
400 B	197.8	400	300	13.5	24	27	155	57680	2880	10819	721
400 M	325.8	432	307	21	40	27	256	104119	4820	19335	1260
HE 450 A	178.0	440	300	11.5	21	27	140	63722	2900	9465	631
450 B	218.0	450	300	14	26	27	171	79887	3550	11721	781
450 M	335.4	478	307	21	40	27	263	131484	5500	19339	1260
HE 500 A	197.5	490	300	12	23	27	155	86975	3550	10367	691
500 B	238.6	500	300	14.5	28	27	187	107176	4290	12624	842
500 M	344.3	524	306	21	40	27	270	161929	6180	19155	1250
HE 550 A	211.8	540	300	12.5	24	27	166	111932	4150	10819	721
550 B	254.1	550	300	15	29	27	199	136691	4970	13077	872
550 M	354.4	572	306	21	40	27	278	197984	6920	19158	1250
HE 600 A	226.5	590	300	13	25	27	178	141208	4790	11271	751
600 B	270.0	600	300	15.5	30	27	212	171041	5700	13530	902
600 M	363.7	620	305	21	40	27	285	237447	7660	18975	1240

TRAVI HE SOLLECITATE A FLESSIONE

mm		carichi massimi in kg riferiti a distanze degli appoggi di m:											
		2	2.5	3	3.5	4	4.5	5	6	7	8	9	10
100	A	4638	3695	3064	2611	2269	2001	1785	1457	1218	1034		
	B	5719	4557	3779	3220	2798	2469	2202	1798	1503	1277		
	M	12076	9623	7981	6802	5913	5216	4655	3803	3182	2706		
120	A	6744	5377	4463	3807	3324	2926	2614	2142	1799	1537	1328	
	B	9163	7306	6064	5173	4501	4083	3553	2912	2446	2090	1808	
	M	18328	14615	12132	10350	9007	7957	7112	5831	4802	4191	3627	
140	A	9881	7882	6546	5588	4866	4302	3848	3162	2664	2285	1984	1739
	B	13757	10973	9115	7781	6777	5992	5361	4406	3714	3186	2769	2428
	M	26178	20885	17346	14810	12899	11406	10206	8389	7073	6070	5276	4629
160	A	14079	11188	9295	7939	6918	6121	5480	4510	3810	3277	2855	2512
	B	19819	15817	13141	11225	9782	8655	7749	6379	5389	4635	4039	3555
	M	36592	28804	23934	20444	17817	15756	14117	11624	9822	8451	7368	6487
180	A	18745	14964	12438	10635	9266	8212	7295	6059	5128	4420	3862	3408
	B	27162	21683	18022	15387	13427	11887	10650	8781	7431	6406	5598	4941
	M	47694	38075	31648	27044	23580	20876	18704	15424	13055	11257	9838	8685
200	A	24811	19811	16470	14077	12278	10874	9746	8044	6815	5884	5150	4554
	B	36357	29031	24136	20625	17995	15929	14286	11792	9994	8630	7555	6683
	M	61677	49252	40950	35004	30532	27042	24240	20011	16961	14648	12826	11348
220	A	32859	26242	21822	18658	16278	14422	12932	10684	9064	7836	6870	6087
	B	46961	37504	31188	26666	23266	20613	18484	15272	12958	11204	9824	8706
	M	77846	62172	51702	44208	38572	34176	30647	25325	21490	18584	16298	14446
240	A	43079	34409	28619	24475	21359	18928	16979	14038	11921	10318	9057	8037
	B	59866	47818	39772	34013	29683	26306	23630	19511	16570	14342	12591	11174
	M	114886	91768	76329	65279	56972	50494	45295	37458	31815	27544	24187	21470
260	A	53578	42633	35465	30335	26479	23743	21061	17425	14809	12830	11276	10109
	B	73414	58648	48787	41732	36428	32293	28975	23975	20378	17656	15519	13790
	M	137896	110162	91644	78392	68432	60666	54436	45048	38293	33184	29172	25928
280	A	64487	51521	42864	36670	32014	28385	25474	21088	17933	15549	13677	12164
	B	88114	70398	58571	50108	43748	38790	34813	28822	24513	21256	18700	16634
	M	162822	130088	108233	92596	80844	71683	64335	53266	45306	39288	34566	30750
300	A	80463	64291	53495	45771	39967	35443	31815	26350	22422	19454	17125	15245
	B	10786	85724	71329	61031	53292	47260	42423	35138	29901	25944	22840	20334
	M	222244	177581	147766	126436	110398	97917	87898	72805	61968	53776	47351	42164
320	A	94525	75532	62854	53784	46969	41659	37400	30988	26380	22899	20170	17968
	B	123266	98498		70138	61252	54326	48773	40411	34402	29864	26306	23434
	M	242860	193948	81966	138114	120620	106986	96055	79596	67771	58840	51839	46190
340	A				61073	53340	47314	42483	35210	29985	26040	22948	20454
	B			161398	78525	68584	60387	54586	45276	38559	33488	29514	26308
	M			71365	147246	128608	114084	102440	84912	72321	62816	55368	49360
360	A			91758	68728	60032	53256	47824	39648	33770	29344	25872	23072
	B			172056	87275	76232	67628	60730	50348	42892	37264	32855	29300
	M			80304	156382	136600	121186	108830	90233	76879	66800	58906	52540
400	A			101974	84043	73420	65144	58511	48530	41365	35960	31728	28318
	B			182716	104783	91540	81222	72953	60510	51578	44840	39565	35314
	M			98185	175378	153216	135950	122112	101291	86345	75072	66247	59136
450	A			122415		92240	81859	73540	61027	52049	45280	33984	35720
	B			204885		112916	100208	90025	74707	63771	55432	48950	43730
	M					174949	155261	139485	115755	98730	85896	75855	67770
500	A					112980	100280	90105	74803	63829	55560	49094	43890
	B					136532	121141	108889	90398	77137	67144	59330	53042
	M					196680	174572	156858	130220	111116	96720	85463	76404
600	A					152568	135448	121734	101119	86343	75216	66522	59532
	B					181552	161179	144860	120328	102745	89504	79159	70840
	M					243980	216602	194671	161703	138074	120820	106577	95198

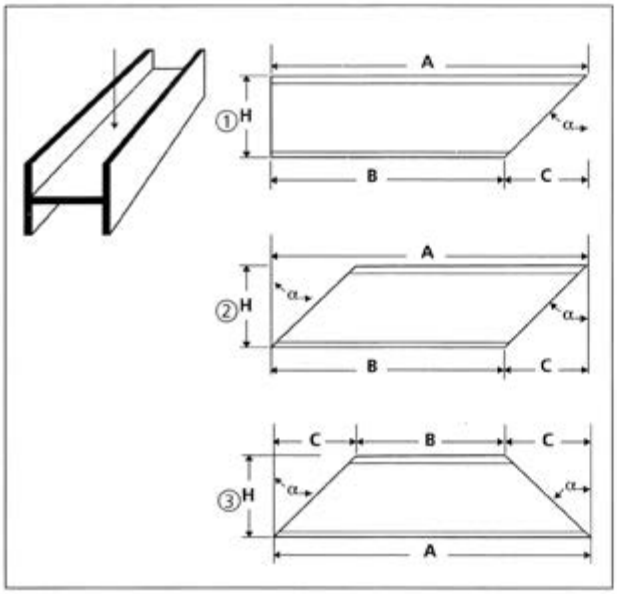
acciaio con carico di sicurezza s = 16 kg/mm^2 - carico totale in kg uniformemente distribuito

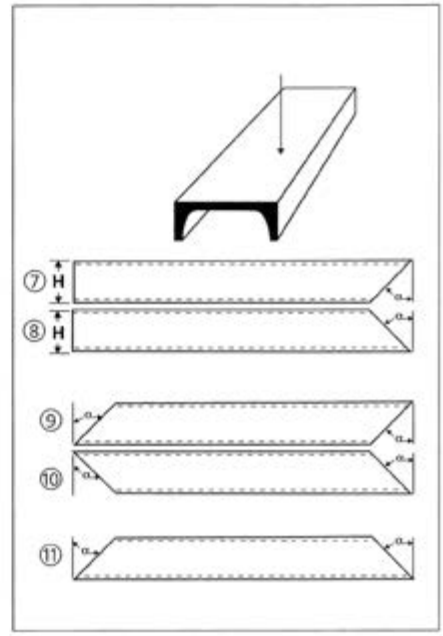
TRAVI HE SOLLECITATE A COMPRESSIONE

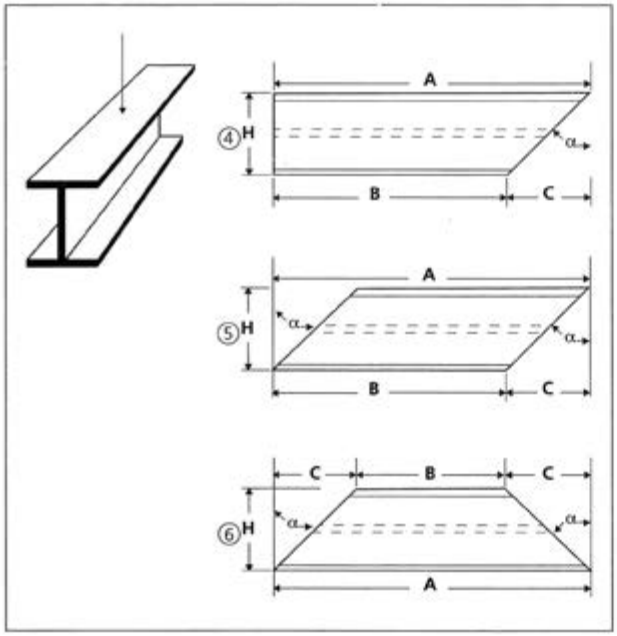
pilastri acciaio con carico di sicurezza s = 16 kg/mm²

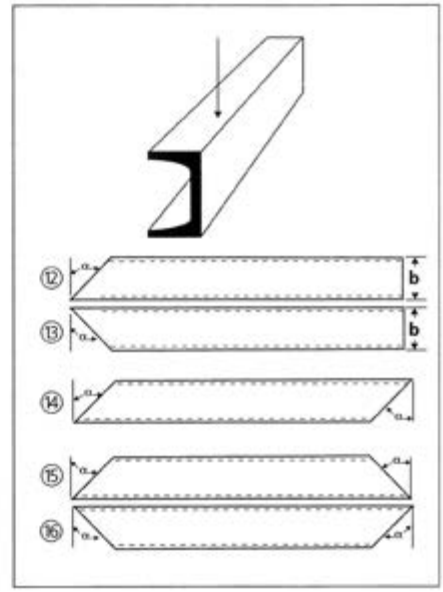
mm		carichi massimi in kg riferiti alle lunghezze dei pilastri in m:											
		2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	8
100	A	23555	21068	18434	15924	13732	11084	9093	7521	6304			
	B	29090	26000	22857	19809	16979	13774	11304	9327	7834			
	M	61237	55633	49777	44109	38342	33380	26851	22166	18873			
120	A	29985	27726	25142	22741	20139	17911	15629	12769	10852	9200		
	B	40296	37517	34000	30734	27336	24285	21501	17770	15027	12680		
	M	79879	74816	68987	62863	56812	50590	44827	39494	33096	28105		
140	A	38646	36405	33718	31304	28384	26031	23367	21020	18402	15651	13469	
	B	53333	50218	46802	43270	39540	35833	32300	29029	26060	22122	19005	
	M	100750	95525	89555	83740	77221	70086	64159	58090	52636	45730	39558	
160	A	49269	46676	44028	41112	38559	35474	32333	29561	26874	24537	21333	
	B	68952	65323	61617	57920	54300	49931	46459	42174	38442	35170	30808	
	M	124288	119507	113401	106410	100232	93029	85834	79671	72260	66393	60925	
180	A	58926	56186	53688	51042	48000	45019	42385	39178	36059	33095	30582	24404
	B	84943	81625	77392	73577	69653	65300	61099	56782	52502	48147	44649	35903
	M	148590	141625	136300	130417	123319	116954	109204	101842	94416	88000	80928	68666
200	A	71140	68317	65709	62832	59777	56631	53465	50339	46782	43474	40413	34850
	B	103272	99174	96123	91882	87384	82754	78100	73505	68659	64082	59504	51850
	M	175066	168064	161600	154470	148990	140990	135585	126554	118689	112342	104517	90943
220	A	86453	82967	80375	76776	74014	70591	67241	63900	60517	56522	53305	46342
	B	122352	118378	113750	109473	105507	101111	95789	91000	86153	81796	75883	67096
	M	202576	195934	180220	182473	175764	168338	160429	152254	144000	136599	129210	113828
240	A	105025	100721	97523	94523	90352	87148	84164	80313	76322	72282	67889	61134
	B	144957	139016	134603	130461	124629	120283	116164	111578	106000	100353	95280	85226
	M	257310	266133	255488	249500	240120	233109	223328	214335	206038	197135	186760	166333
260	A	119724	115733	112000	108500	104421	102117	97802	94476	90181	86260	82177	74267
	B	163310	157866	152774	148000	142436	139294	134354	128870	123816	118400	112094	102400
	M	305530	295260	288000	276661	270276	260266	252776	244000	234240	226683	216888	197393
280	A	135373	130823	127606	123555	119753	116179	112811	108867	104483	101090	96695	87954
	B	182817	176670	172327	166857	161723	158075	152459	148056	143020	137411	131400	120137
	M	384320	325694	317619	307456	300250	288962	282589	272567	265048	254516	247948	226070
300	A		153846	148760	144000	140625	157404	132352	129496	125000	120000	116883	106508
	B		203897	197157	192387	186375	182106	176711	171625	166825	160107	154909	142850
	M		418068	407529	394276	384888	375937	364631	356588	343943	334455	323306	301217
320	A			164495	159232	155500	151938	146352	143194	138222	132683	129246	117775
	B			213289	208129	201625	197007	191170	185669	179272	173208	167584	154538
	M			419495	405835	396190	384000	375438	367058	354042	344275	330596	310062
340	A			176528	170880	166875	163053	157058	151489	148333	142400	137806	126390
	B			225983	218752	213625	208732	201058	196719	187287	183516	177558	163736
	M			421066	410796	401015	288676	379909	368817	358354	346082	334622	311901
360	A				182784	178500	174412	168000	162042	157572	152320	147406	135195
	B				231168	225750	220580	212470	207884	200666	192640	187636	170982
	M				414699	401637	392369	380656	372321	359211	349369	335578	303139
400	A				203520	198750	191278	187058	180425	175448	168476	162038	149647
	B				253184	247250	237954	232705	224453	218262	209589	204180	186164
	M				420387	410456	400984	389014	377739	364531	354612	340705	314024
450	A					222550	214135	209411	201985	195068	188609	181401	166549
	B					272500	262255	256470	247375	240551	230993	222165	205119
	M					419250	409648	397511	386071	375272	360161	348467	321341
500	A					244961	237593	232352	224113	216438	207894	198742	184795
	B					295937	287037	280705	270751	261479	251157	243159	223251
	M					430575	420519	405058	390695	382255	367253	355406	325964
600	A					278769	270447	262608	253426	243221	235324	225093	207085
	B					392384	322388	315328	304225	243877	282352	270000	246857
	M					451100	437533	424759	412709	398575	382842	365987	334436

SCHEMA DI TAGLIO TRAVI E FERRI AD "U"









campo dimensionale d'applicazione	tagli diritti		tagli inclinati (a ≤ 45°)	
	lunghezza	A = 1 + 20 mt.	lunghezza	A = 1 + 20 mt.
	larghezza profilo	H = 80 + 1000 mm	larghezza profilo	H = 80 + 1000 mm
			altezza	H = 100 + 300 mm