

UNITATI DE MASURA

Tabela 1

MARIMI MECANICE	UNITATI DE MASURA NOI (S.I.) SI CORESPONDENTA IN SISTEMUL VECHI		OBSERVATII
	S.I.	MKfS	
Forte, Incarcari concentrate	1 daN	1 kgf	daN – decanewton
	10 kN	1 tf	kN – kilonewton
Momente incovoietoare	1 daN·cm	1 kgf·cm	
	1 daN·m	1 kgf·m	
	10 kN·m	10 tf·m	
Incarcari distribuite	1 daN/m	1 kgf/m	
	10 kN/m	1 tf/m	
	1 daN/m ²	1 kgf/m ²	
	10 kN/m ²	10 tf/m ²	
Presiune, Tensiune, Efort unitar	1 daN/mm ²	1 kgf/mm ²	Pentru rezultate de laborator Simboluri OL
	1 daN/cm ²	1 kgf/cm ²	
	10 kN/cm ²	1 tf/cm ²	Pentru calcule de eforturi unitare
Lucru mecanic, Energie	1 daJ	1 kgf·m	daJ – decajoule

OBSERVATII:

1. Conform STAS 737-68, unitatea de masura pentru forta in sistemul SI, legala in Romania, este Newtonul (N)
2. In vederea simplificarii calculelor elementelor de constructii, se accepta urmatoarele:
 - Se aproximeaza $1 \text{ kgf} = 9,80665 \text{ N}$ (aproximativ 10 N);
 - Se lucreaza de preferinta in decanewtoni (daN) pentru ca marimile exprimate pana acum in sistemul MKfS in kgf sau kgf/cm^2 sa ramana cu aceleasi valori exprimate in daN sau daN/cm^2 in sistemul SI.

**REZISTENTE ADMISIBILE PENTRU
ELEMENTE DE CONSTRUCTII DIN OL37,**
dupa STAS 763-71, in daN/cm² (modificat in 1976)

Tabela 2

SOLICITAREA	SIMBOL	GRUPAREA DE INCARCARI	
		I	II
Intindere, compresiune si incovoiere	σ_a	1600	1800
Forfecare	τ_a	950	1100
Presiune locala	σ_a	7000	8000

OBSERVATII:

- Pentru gruparea III de incarcari, rezistenta admisibila se determina prin multiplicarea cu 1,25 a rezistentei admisibile din gruparea I de incarcari corespunzatoare solicitarii respective.

**REZISTENTE ADMISIBILE PENTRU
LEMN DE BRAD IN CONSTRUCTII,**
dupa STAS 856-71, in daN/cm²

Tabela 3

SOLICITAREA	SIMBOL	NATURA CONSTRUCTIEI	
		definitiva	provizorie
Incovoiere	σ_{ai}	100	120
Intindere in lungul fibrelor	σ_{at}	70	85
Compresiune in lungul fibrelor	σ_{ac}	100	120
Strivire in lungul fibrelor	$\sigma_{as\perp}$	100	120
Compresiune normal pe fibre	$\sigma_{ac\perp}$	15	18
Strivire normal pe fibre la imbinari cu pene	σ_{as}	25	30
Forfecare in lungul fibrelor provenind din inconvoiere	τ_{ai}	20	24
Forfecare la imbinari cu praguri	τ_a	10	12
Forfecare la pene prismatice, in lungul fibrelor	τ_a	10	12
Forfecare in plan normal pe fibre	$\tau_{a\perp}$	45	55

IMBINARI NITUITE**1. REZISTENTE ADMISIBILE,**dupa STAS 763-71, in daN/cm² (modificat in 1976)

Tabela 4

Solicitarea	Simbol	Coeficient in raport cu σ_a a materialului	Nituri din OL34		Elemente din OL34	
			Gruparea de incarcari			
			I	II	I	II
Forfecare	σ_{af}	0.8	1300	1500	—	—
Presiune pe gaura	σ_{ag}	2.0	—	—	3200	3600

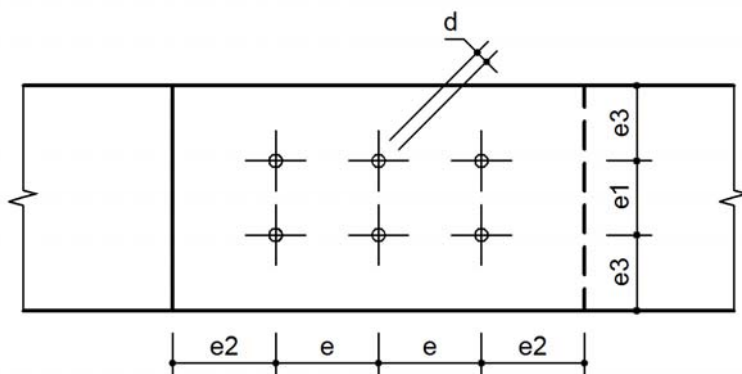
2. PREVEDERI CONSTRUCTIVE

a. Diametrele niturilor in functie de grosimea tablelor de strans:

Tabela 5

Diametrul de calcul al nitului d, in mm	10.5	14	17	20	23	26	29
Grosimea celei mai subtiri piese din pachet t, in mm	pana la 5		5-9	7-11	10-14	13-19	peste 20

b. Distanțele minime si maxime dintre nituri:



$$3d \leq e \leq 8d \text{ (sau } 12t)$$

$$3d \leq e_1 \leq 8d \text{ (sau } 12t)$$

$$2d \leq e_2 \leq 4d \text{ (sau } 8t)$$

$$1,5d \leq e_3 \leq 4d \text{ (sau } 8t)$$

c. Recomandari:

- La alegerea distantei intre nituri se tine seama de rolul imbinarii in cadrul constructiei metalice respective.
- La imbinarile de rezistenta niturile se aseaza cat mai strans la distante minime, pentru a nu lungi zona de imbinare.
- La imbinarile de solidarizare, cu caracter constructiv, se merge spre distantele maxime, pentru a reduce numarul de nituri.

IMBINARI SUDATE**1. REZISTENTE ADMISIBILE LA SUDURI IN
ELEMENTE DE CONSTRUCTII DIN OL37,**
dupa STAS 763-71, in daN/cm² (modificat in 1976)

Tabela 6

Tipul cordonului de sudura	Solicitarea	Simbol	Coeficient in raport cu σ_a	Gruparea de incarcari	
				I	II
Sudura in relief	Forfecare	τ_{as}	0,70	1100	1250
Sudura in adancime	Compresiune	σ_{as}	1,00	1600	1800
	Intindere (control obisnuit)	σ_{as}	0,80	1300	1450

2. PREVEDERI CONSTRUCTIVE

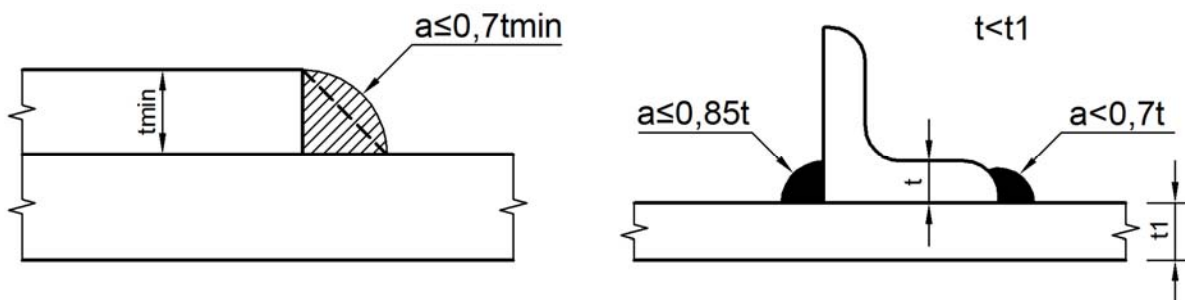
Dimensiunile coordonatelor de sudura in relief:

- grosimea de calcul minima a_{min} se alege in functie de grosimea maxima t_{max} a piesei celei mai groase care se sudeaza, conform tablei:

Tabela 7

t_{max} (mm)	pana la 10	11-12	21-30	31-50
a_{min} (mm)	3	4	6	7

- grosimea de calcul maxima nu poate depasi 0,7 din grosimea celei mai subtiri dintre piesele de sudat, $a \leq 0,7t_{min}$. Fac exceptie sudurile de la muchia cornierelor sau profilelor U, a caror grosime a poate fi pana la $0,85t$.
- lungimea de calcul a cordonului de sudura in relief va fi cel putin $6a$, dar nu mai putin de 40mm.
- lungimea maxima nu va fi mai mare decat $60a$.
- sudurile de rezistenta se executa cu grosimea maxima permisa ($a=0,7t$), pe cand la sudurile de solidarizare se pot folosi grosimi apropiate de cele minime.



OTEL ROTUND
(dupa STAS 333-71)

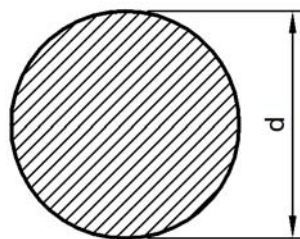
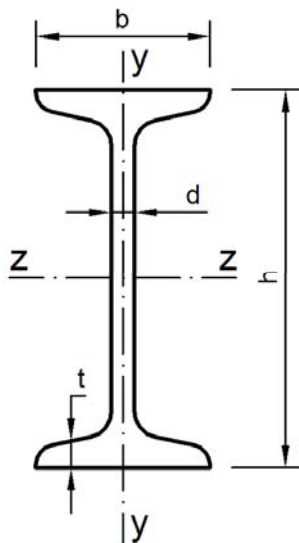


Tabela 8

Diametrul mm	Aria sectiunii cm ²	Masa teoretica kg/m	Diametrul mm	Aria sectiunii cm ²	Masa teoretica kg/m
12	1.13	0.89	56	24.6	19.3
13	1.33	1.04	60	28.3	22.2
14	1.54	1.21	65	33.2	26.1
15	1.77	1.39	70	38.5	30.2
16	2.01	1.56	75	44.2	34.7
18	2.54	2.00	80	50.3	39.5
20	3.14	2.47	85	56.7	44.5
21	3.46	2.72	90	63.6	49.9
22	3.80	2.98	95	70.9	55.6
24	4.52	3.55	100	78.5	61.7
25	4.91	3.85	110	95.0	74.6
26	5.31	4.17	120	113	88.8
28	6.16	4.83	130	133	104
30	7.07	5.55	140	154	121
32	8.04	6.31	150	177	139
34	9.08	7.13	160	201	158
35	9.62	7.55	170	227	178
36	10.20	7.99	180	254	200
38	11.30	8.90	200	314	247
40	12.60	9.89	210	346	272
42	13.90	10.90	220	380	298
45	15.90	12.50	240	452	355
48	18.10	14.20	250	491	385
50	19.60	15.40	270	572	449
53	22.10	17.30	300	707	555

Tabele pentru **Rezistenta Materialelor**



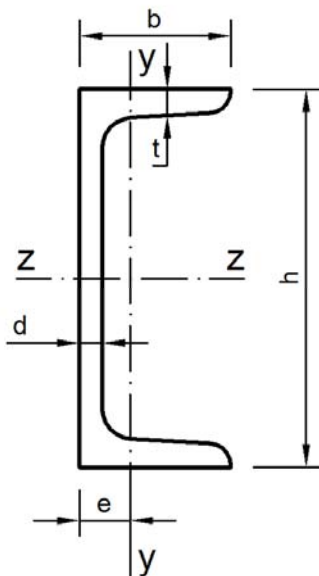
OTEL I
(dupa STAS 565-71)

I - moment de inertie
W - modul de rezistenta
i - raza de inertie
S_{max} - moment static al
 semisectiunii fata de axa *z*

Tabela 9

Denumirea I	Dimensiuni mm				Aria sectiunii A cm ²	Masa teoretica G kg/m	Caracteristici geometrice fata de axele						S_{max} cm ³
							z - z			y - y			
	h	b	t	d			I_z cm ⁴	W_z cm ³	i_z cm	I_y cm ⁴	W_y cm ³	i_y cm	
8	80	42	5.9	3.9	7.6	6.0	77.8	19.5	3.20	6.29	3.00	0.91	11.4
10	100	50	6.8	4.5	10.6	8.3	171	34.2	4.01	12.2	4.88	1.07	19.9
12	120	58	7.7	5.1	14.2	11.2	328	54.7	4.81	21.5	7.41	1.23	31.8
14	140	66	8.6	5.7	18.3	14.4	573	81.9	5.61	36.2	10.7	1.40	47.7
16	160	74	9.5	6.3	22.8	17.9	935	117	6.40	54.7	14.8	1.55	68.0
18	180	82	10.4	6.9	27.9	21.9	1450	161	7.20	81.3	19.8	1.71	93.4
20	200	90	11.3	7.5	33.5	26.3	2140	214	8.00	117	26.0	1.87	125
22	220	98	12.2	8.1	39.6	31.1	3060	278	8.80	162	33.1	2.02	162
24	240	106	13.1	8.7	46.1	36.2	4250	354	9.59	221	41.7	2.20	206
26	260	113	14.1	9.4	53.4	41.9	5740	442	10.4	288	51.0	2.32	257
28	280	119	15.2	10.1	61.1	48.0	7590	542	11.1	364	61.2	2.45	316
30	300	125	16.2	10.8	69.1	54.2	9800	653	11.9	451	72.2	2.56	381
32	320	131	17.3	11.5	77.8	61.1	12510	782	12.7	555	84.7	2.67	457
36	360	143	19.5	13.0	97.1	76.2	19610	1090	14.2	818	114	2.90	638
40	400	155	21.6	14.4	118.0	92.6	29210	1460	15.7	1160	149	3.13	857

Tabele pentru **Rezistenta Materialelor**



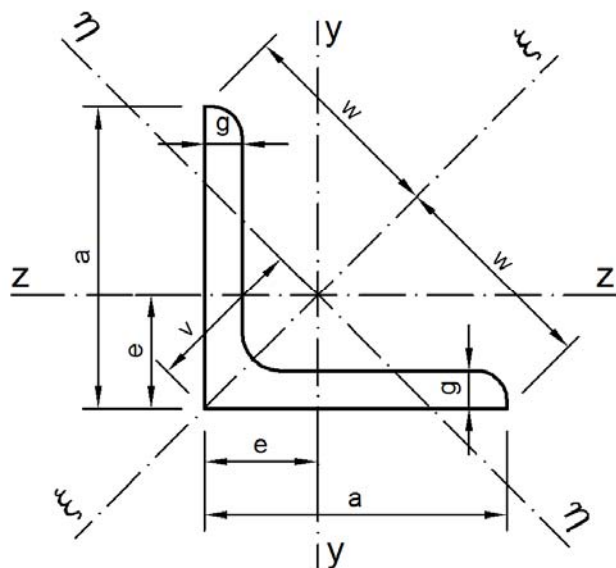
OTEL U
(dupa STAS 564-71)

I - moment de inertie
 W - modul de rezistenta
 i - raza de inertie
 S_{max} - moment static al
 semisectionii fata de axa z

Tabela 10

Denumirea U	Dimensiuni mm				Aria sectionii A cm ²	Masa teoretica G kg/m	Caracteristici geometrice fata de axe						S _{max} cm ³	e cm
							z - z			y - y				
	h	b	d	t			I _z cm ⁴	W _z cm ³	i _z cm	I _y cm ⁴	W _y cm ³	i _y cm		
6.5	65	42	5.5	7.5	9.03	7.09	57.5	17.7	2.52	14.1	5.07	1.25	—	1.42
8	80	45	6.0	8.0	11.0	8.64	106	26.5	3.10	19.4	6.36	1.33	15.9	1.45
10	100	50	6.0	8.5	13.5	10.6	205	41.2	3.91	29.3	8.49	1.47	24.5	1.55
12	120	55	7.0	9.0	17.0	13.4	364	60.7	4.62	43.2	11.1	1.59	36.3	1.60
14	140	60	7.0	10.0	20.4	16.0	605	86.4	5.45	62.7	14.8	1.75	51.4	1.75
16	160	65	7.5	10.5	24.0	18.8	925	116	6.21	85.3	18.3	1.89	68.8	1.84
18	180	70	8.0	11.0	28.0	22.0	1350	150	6.95	114	22.4	2.02	89.6	1.92
20	200	75	8.5	11.5	32.2	25.3	1910	191	7.70	148	27.0	2.14	114	2.01
22	220	80	9.0	12.5	37.4	29.4	2690	245	8.48	197	33.6	2.30	146	2.14
24	240	85	9.5	13.0	42.3	33.2	3600	300	9.22	248	39.6	2.42	179	2.28
26	260	90	10	14.0	48.3	37.9	4820	371	9.99	317	47.7	2.56	221	2.36
30	300	100	10	16.0	58.8	46.2	8030	535	11.7	495	67.8	2.90	316	2.70

Tabele pentru **Rezistența Materialelor**



OTEL CORNIER CU ARIPI EGALE

(extras din STAS 424-71)

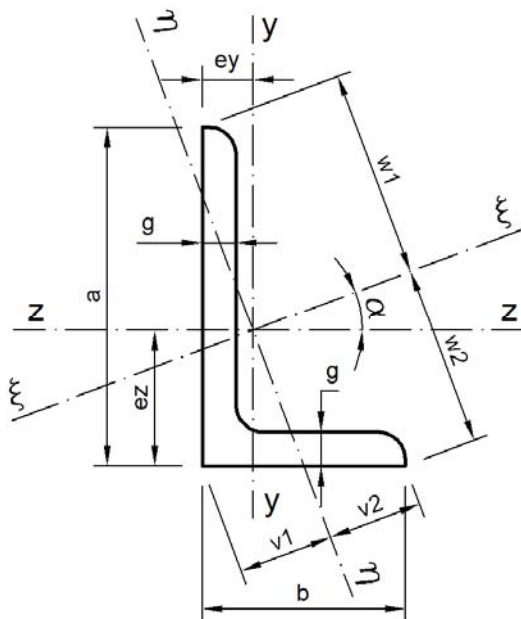
Tabela 11

Denumirea L	Dimensiuni mm		Aria secțiunii A cm ²	Masa teoretică G kg/m	Distanța axelor cm			Caracteristici geometrice pentru axa de încovoiere								
	a	g			e	w	v	z - z - y - y			ξ - ξ			η - η		
								I _z cm ⁴	W _z cm ³	i _z cm	I _ξ cm ⁴	W _ξ cm ³	i _ξ cm	I _η cm ⁴	W _η cm ³	i _η cm
40 x 40 x 4	40	4	3.08	2.24	1.12	2.83	1.58	4.47	1.55	1.21	7.09	2.51	1.52	1.85	1.17	0.78
40 x 40 x 5		5	3.79	2.97	1.16		1.64	5.43	1.91	1.2	8.6	3.05	1.51	2.26	1.37	0.77
45 x 45 x 5	45	5	4.3	3.38	1.28	3.18	1.81	7.81	2.43	1.35	12.4	3.9	1.7	3.25	1.8	0.87
45 x 45 x 6		6	5.08	4	1.32		1.87	9.16	2.88	1.34	14.5	4.56	1.69	3.82	2.04	0.87
50 x 50 x 5	50	5	4.8	3.77	1.4	3.54	1.98	11	3.05	1.51	17.4	4.92	1.9	4.54	2.59	0.97
50 x 50 x 6		6	5.69	4.47	1.45		2.04	12.8	3.61	1.5	20.4	5.76	1.89	5.33	2.61	0.97
50 x 50 x 7		7	6.56	5.15	1.49		2.11	14.6	4.16	1.49	23.1	6.53	1.88	6.1	2.91	0.96
60 x 60 x 5	60	5	5.82	4.57	1.64	4.24	2.32	19.4	4.45	1.82	30.7	7.25	2.3	8.02	3.45	1.17
60 x 60 x 6		6	6.91	5.42	1.69		2.39	22.8	5.29	1.82	36.2	8.51	2.29	9.43	3.95	1.17
60 x 60 x 8		8	9.03	7.09	1.77		2.5	29.2	6.89	1.8	46.2	10.9	2.26	12.1	4.86	1.16
60 x 60 x 10		10	11.1	8.69	1.85		2.61	34.9	8.41	1.78	55.1	13	2.23	14.8	5.67	1.16

Tabele pentru **Rezistenta Materialelor**

Denumirea L	Dimensiuni mm		Aria sectiunii A cm ²	Masa teoretica G kg/m	Distanța axelor cm			Caracteristici geometrice pentru axa de incovoiere								
	a	g			e	w	v	z - z - y - y			ξ - ξ			η - η		
								I _z cm ⁴	W _z cm ³	i _z cm	I _ξ cm ⁴	W _ξ cm ³	i _ξ cm	I _η cm ⁴	W _η cm ³	i _η cm
70 x 70 x 6	70	6	8.13	6.38	1.93	4.95	2.73	36.9	7.27	2.13	53.5	10.8	2.68	15.2	5.59	1.37
70 x 70 x 7		7	9.4	7.38	1.97		2.79	42.4	8.41	2.12	67.1	13.6	2.67	17.5	6.27	1.36
70 x 70 x 8		8	10.6	8.36	2.01		2.85	47.5	9.52	2.11	75.3	15.2	2.66	19.7	6.91	1.36
70 x 70 x 10		10	13.1	10.3	2.09		2.96	57.2	11.7	2.09	90.5	18.3	2.63	23.9	8.09	1.35
80 x 80 x 6	80	6	9.35	7.36	2.17	5.66	3.07	55.8	9.57	2.44	88.5	15.6	3.08	23.1	7.55	1.56
80 x 80 x 8		8	12.3	9.63	2.26		3.19	72.2	12.6	2.43	115	20.3	3.06	29.8	9.36	1.55
80 x 80 x 10		10	15.1	11.9	2.34		3.3	87.5	15.4	2.41	139	24.6	3.03	36.3	11	1.55
90 x 90 x 8	90	8	13.9	10.9	2.5	6.36	3.53	104	16.1	2.74	166	26.2	3.45	43.1	12.2	1.76
90 x 90 x 9		9	15.5	12.2	2.54		3.59	116	18	2.74	184	28.8	3.45	47.8	13.3	1.76
90 x 90 x 11		11	18.7	14.7	2.62		3.7	138	21.6	2.72	218	34.3	3.41	57.1	15.4	1.75
100 x 100 x 8	100	8	15.5	12.2	2.74	7.07	3.87	145	19.9	3.06	230	32.6	3.85	59.8	15.4	1.96
100 x 100 x 10		10	19.2	15	2.82		3.99	177	24.6	3.04	280	39.6	3.83	72.9	18.3	1.95
100 x 100 x 12		12	22.7	17.8	2.9		4.11	207	29.1	3.02	328	46.4	3.8	85.7	20.9	1.94
120 x 120 x 10	120	10	23.2	18.2	3.31	8.49	4.69	313	36	3.67	497	58.8	4.63	129	27.5	2.36
120 x 120 x 12		12	27.5	21.6	3.4		4.8	368	42.7	3.65	584	60.9	4.6	151	31.5	2.35
130 x 130 x 12	130	12	30	23.6	3.64	9.19	5.15	472	50.4	3.97	750	81.6	5	194	37.7	2.54
130 x 130 x 14		14	34.7	27.2	3.72		5.26	540	58.2	3.94	857	93.3	4.97	223	42.4	2.53
130 x 130 x 16		16	39.3	30.9	3.8		5.37	605	65.8	3.92	959	104	4.94	251	46.7	2.52
140 x 140 x 12	140	12	32.5	25.5	3.9	9.9	5.5	602	59.7	4.31	957	96.5	5.43	248	44.9	2.76
140 x 140 x 14		14	37.6	39.4	3.98		5.61	689	68.8	4.3	1094	110	5.42	284	50.5	2.74
140 x 140 x 16		16	42.2	37.3	4.2		5.9	772	79.1	4.28	1230	126	5.4	314	61.5	2.72
150 x 150 x 14	150	14	40.3	31.6	4.21	10.6	5.95	845	78.2	4.58	1340	126	5.77	347	58.3	2.94
150 x 150 x 16		16	45.7	35.9	4.29		6.07	949	88.7	4.56	1510	142	5.74	391	64.4	2.93
150 x 150 x 18		18	51	40.1	4.37		6.17	1050	98.7	4.54	1670	158	5.71	435	70.4	2.92

Tabele pentru **Rezistența Materialelor**



OTEL CORNIER CU ARIPI NEEGALE
(extras din STAS 425-70)

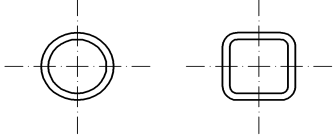


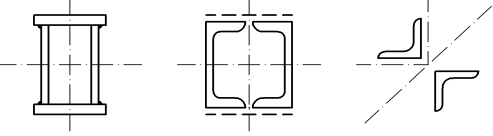
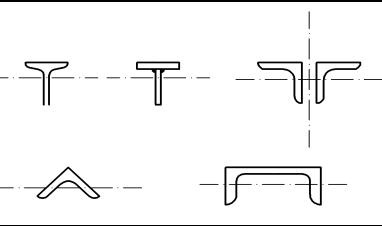
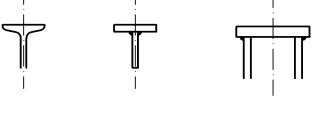
Tabela 12

Denumirea LL	Dimensiuni			Aria sectiunii A cm ²	Masa teoretica G kg/m	Distanța axelor cm						Pozitia axei $\eta - \eta$ $\text{tg } \alpha$	Caracteristici geometrice pentru axa de incovoiere									
	a	b	g			e_z	e_y	w_1	w_2	v_1	v_2		z - z		y - y			$\xi - \xi$		$\eta - \eta$		
													I_z cm ⁴	W_z cm ³	i_z cm	I_y cm ⁴	W_y cm ³	i_y cm	I_ξ cm ⁴	i_ξ cm	I_η cm ⁴	i_η cm
40 x 20 x 3	40	20	3	1.73	1.36	1.42	0.44	2.61	1.77	0.79	1.19	0.257	2.60	1.09	1.27	0.47	0.30	0.52	2.96	1.31	0.31	0.42
60 x 30 x 5	60	30	5	4.29	3.37	2.15	0.68	3.89	2.67	1.20	1.77	0.256	15.6	4.04	1.90	2.60	1.12	0.78	16.5	1.96	1.69	0.63
60 x 30 x 6			6	5.08	4.59	2.20	0.72	3.86	2.69	1.25	1.75	0.252	18.2	4.78	1.89	3.02	1.32	0.77	19.2	1.95	1.99	0.63
60 x 40 x 6	60	40	6	5.68	4.46	2.00	1.01	4.06	3.02	1.72	2.10	0.431	20.1	5.03	1.88	7.12	2.38	1.12	23.1	2.02	4.15	0.86
80 x 65 x 6	80	65	6	8.41	6.60	2.39	1.65	5.61	4.63	2.69	2.94	0.649	52.8	9.41	2.51	31.2	6.44	1.93	68.5	2.85	15.6	1.35
80 x 65 x 8			8	11.0	8.66	2.47	1.73	5.59	4.65	2.79	2.94	0.645	68.1	12.3	2.49	40.1	8.41	1.91	88.0	2.82	20.3	1.36
80 x 65 x 10			10	13.6	10.7	2.55	1.81	5.56	4.68	2.90	2.95	0.640	82.2	15.1	2.46	48.3	10.3	1.89	106	2.79	24.8	1.35
100 x 50 x 8	100	50	8	11.4	8.99	3.59	1.12	6.49	4.44	2.00	2.96	0.257	116	18.1	3.18	19.5	5.04	1.31	123	3.28	12.7	1.05
100 x 50 x 10			10	14.1	11.1	3.67	1.20	6.43	4.40	2.08	2.93	0.253	141	22.2	3.16	23.4	6.17	1.29	149	3.25	15.4	1.05
100 x 75 x 7	100	75	7	11.9	9.32	3.06	1.83	6.90	5.42	3.10	3.61	0.553	118	17.0	3.15	56.9	10.0	2.19	145	3.49	30.1	1.59
100 x 75 x 9			9	15.1	19.8	3.15	1.91	6.91	5.45	3.22	3.63	0.549	148	21.5	3.13	71.0	12.7	2.17	181	3.47	37.8	1.59
100 x 75 x 11			11	18.2	14.3	3.23	1.99	6.87	5.49	3.32	3.65	0.545	176	25.9	3.11	84.0	15.3	2.15	214	3.44	45.4	1.58
150 x 100 x 10	150	100	10	24.2	19.0	4.80	2.34	10.30	7.50	4.10	5.25	0.442	552	54.1	4.78	198	25.8	2.86	637	5.13	112	1.15
150 x 100 x 12			12	28.7	29.6	4.89	2.42	10.20	7.53	4.19	5.24	0.439	650	64.2	4.76	232	30.6	2.84	749	5.10	132	2.15
150 x 100 x 14			14	33.2	26.1	4.97	2.50	10.20	7.56	4.28	5.23	0.435	744	74.1	4.73	264	35.2	2.82	896	5.07	152	2.14

COEFICIENTI DE FLAMBAJ φ CORESPUNZATORI CURBELOR DE FLAMBAJ A, B, C.

(conform modificarilor din 1976 la STAS 763/1-71)

Tabela 14

INCADRAREA IN CURBELE DE FLAMBAJ			
Nr. Crt.	Tipul sectiunii	Curba	
1	a. Tuburi laminate la cald fara sudura		A
	b. Profile I laminate sau sudate din tabla oxicipata - flambaj in plan paralel cu inima		
2	a. Profile I laminate sau sudate din tabla oxicipata - flambaj in plan paralel cu talpile		B
	b. Chesoane sudate - Profile solidarizate cu placute sau zabrelute		
3	a. Profile deschise cu o axa de simetrie - flambaj in plan paralel cu axa de simetrie		C
	b. Profile deschise cu o axa de simetrie - flambaj in plan perpendicular pe axa de simetrie		B
<p>OBS: Flambajul se produce prin incovoiere-rasucire daca λ in raport cu axa de simetrie este mai mic decat λ in raport cu axa perpendiculara pe axa de simetrie. In acest caz verificarea pierderii stabilitatii se face cu λ_{tr}.</p> <p style="text-align: center;">Axele reprezentate in figura sunt cele dupa care se produce flambajul.</p>			

COEFICIENTI DE FLAMBAJ φ PENTRU OL37

Tabela 15

$\lambda \backslash \varphi$	A	B	C	$\lambda \backslash \varphi$	A	B	C	$\lambda \backslash \varphi$	A	B	C	$\lambda \backslash \varphi$	A	B	C
1	1.000	1.000	1.000	51	0.918	0.878	0.814	101	0.609	0.545	0.491	151	0.331	0.299	0.287
2	1.000	1.000	1.000	52	0.914	0.873	0.808	102	0.602	0.539	0.485	152	0.328	0.296	0.281
3	1.000	1.000	0.999	53	0.910	0.868	0.801	103	0.595	0.532	0.480	153	0.324	0.292	0.276
4	1.000	0.999	0.999	54	0.906	0.863	0.795	104	0.588	0.526	0.474	154	0.320	0.289	0.275
5	0.999	0.999	0.998	55	0.902	0.857	0.788	105	0.581	0.519	0.469	155	0.170	0.286	0.272
6	0.999	0.998	0.997	56	0.898	0.852	0.782	106	0.574	0.513	0.464	156	0.319	0.283	0.269
7	0.999	0.998	0.996	57	0.893	0.846	0.775	107	0.567	0.507	0.458	157	0.310	0.280	0.267
8	0.998	0.997	0.995	58	0.889	0.840	0.768	108	0.560	0.500	0.453	158	0.306	0.277	0.264
9	0.998	0.997	0.994	59	0.884	0.834	0.762	109	0.553	0.494	0.448	159	0.303	0.274	0.261
10	0.997	0.996	0.992	60	0.880	0.828	0.755	110	0.546	0.488	0.443	160	0.299	0.271	0.259
11	0.997	0.995	0.990	61	0.875	0.822	0.748	111	0.539	0.482	0.438	161	0.296	0.268	0.256
12	0.996	0.994	0.989	62	0.870	0.816	0.741	112	0.533	0.476	0.433	162	0.293	0.265	0.254
13	0.995	0.993	0.987	63	0.865	0.810	0.734	113	0.526	0.470	0.428	163	0.290	0.262	0.251
14	0.995	0.992	0.985	64	0.860	0.804	0.728	114	0.520	0.465	0.424	164	0.286	0.259	0.249
15	0.994	0.990	0.982	65	0.855	0.797	0.721	115	0.513	0.459	0.419	165	0.283	0.257	0.246
16	0.993	0.989	0.980	66	0.849	0.791	0.714	116	0.507	0.453	0.414	166	0.280	0.254	0.244
17	0.992	0.987	0.977	67	0.844	0.784	0.707	117	0.501	0.448	0.410	167	0.277	0.251	0.241
18	0.991	0.986	0.975	68	0.838	0.777	0.700	118	0.494	0.442	0.405	168	0.274	0.248	0.239
19	0.990	0.984	0.972	69	0.832	0.771	0.693	119	0.488	0.437	0.401	169	0.271	0.246	0.237
20	0.989	0.983	0.969	70	0.826	0.764	0.686	120	0.482	0.431	0.396	170	0.268	0.243	0.235
21	0.988	0.981	0.966	71	0.820	0.757	0.680	121	0.476	0.426	0.392	171	0.266	0.241	0.232
22	0.987	0.979	0.962	72	0.814	0.750	0.673	122	0.470	0.421	0.387	172	0.263	0.238	0.230
23	0.985	0.977	0.959	73	0.808	0.743	0.666	123	0.464	0.416	0.383	173	0.260	0.236	0.228
24	0.984	0.975	0.955	74	0.802	0.736	0.659	124	0.459	0.411	0.379	174	0.257	0.233	0.226
25	0.982	0.972	0.951	75	0.795	0.729	0.652	125	0.453	0.406	0.375	175	0.255	0.231	0.224
26	0.981	0.970	0.948	76	0.789	0.722	0.646	126	0.447	0.401	0.371	176	0.252	0.229	0.221
27	0.979	0.968	0.944	77	0.782	0.715	0.639	127	0.442	0.396	0.366	177	0.490	0.226	0.219
28	0.978	0.965	0.939	78	0.776	0.708	0.632	128	0.436	0.391	0.362	178	0.247	0.224	0.217
29	0.976	0.963	0.935	79	0.769	0.700	0.626	129	0.431	0.387	0.358	179	0.244	0.222	0.215
30	0.974	0.960	0.931	80	0.762	0.693	0.619	130	0.426	0.382	0.355	180	0.242	0.220	0.213
31	0.972	0.957	0.926	81	0.755	0.686	0.612	131	0.421	0.377	0.351	181	0.239	0.218	0.211
32	0.971	0.954	0.922	82	0.748	0.619	0.606	132	0.416	0.373	0.347	182	0.237	0.215	0.209
33	0.969	0.951	0.917	83	0.741	0.672	0.599	133	0.410	0.368	0.343	183	0.235	0.213	0.207
34	0.966	0.948	0.912	84	0.734	0.664	0.593	134	0.405	0.364	0.339	184	0.232	0.211	0.205
35	0.964	0.945	0.907	85	0.727	0.657	0.587	135	0.401	0.360	0.336	185	0.230	0.209	0.204
36	0.962	0.942	0.902	86	0.719	0.650	0.580	136	0.396	0.356	0.332	186	0.228	0.207	0.202
37	0.960	0.938	0.897	87	0.712	0.643	0.574	137	0.391	0.351	0.329	187	0.225	0.205	0.200
38	0.957	0.935	0.892	88	0.705	0.636	0.568	138	0.386	0.347	0.325	188	0.223	0.203	0.198
39	0.955	0.931	0.886	89	0.697	0.628	0.561	139	0.382	0.343	0.322	189	0.221	0.201	0.196
40	0.952	0.927	0.881	90	0.690	0.621	0.555	140	0.377	0.339	0.318	190	0.210	0.199	0.195
41	0.950	0.923	0.875	91	0.683	0.614	0.549	141	0.373	0.335	0.315	191	0.217	0.197	0.193
42	0.947	0.920	0.869	92	0.675	0.607	0.543	142	0.368	0.331	0.312	192	0.215	0.195	0.191
43	0.944	0.915	0.864	93	0.668	0.600	0.537	143	0.364	0.328	0.308	193	0.213	0.194	0.189
44	0.940	0.911	0.858	94	0.661	0.593	0.531	144	0.360	0.324	0.305	194	0.211	0.192	0.188
45	0.938	0.907	0.852	95	0.653	0.586	0.525	145	0.355	0.320	0.302	195	0.209	0.190	0.186
46	0.935	0.902	0.846	96	0.646	0.576	0.519	146	0.351	0.316	0.299	196	0.207	0.188	0.184
47	0.932	0.898	0.840	97	0.638	0.572	0.513	147	0.347	0.313	0.296	197	0.205	0.186	0.183
48	0.928	0.893	0.833	98	0.631	0.565	0.508	148	0.343	0.309	0.293	198	0.203	0.185	0.181
49	0.925	0.888	0.827	99	0.624	0.559	0.502	149	0.339	0.306	0.289	199	0.201	0.183	0.180
50	0.921	0.883	0.821	100	0.616	0.552	0.496	150	0.335	0.302	0.287	200	0.199	0.181	0.178