# **INTERNATIONAL STANDARD**

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION MEXCHAPODHAS OPTAHUSALUS TO CTAHCAPTUSALUS ORGANISATION INTERNATIONALE DE NORMALISATION

### Bases for design of structures - Notations - General symbols

Bases du calcul des constructions - Notations - Symboles généraux

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#### FOREWORD

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Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3898 was drawn up by Technical Committee ISO/TC 98, Bases for design of structures, and was circulated to the Member Bodies in June 1975. (standards.iteh.ai)

It has been approved by the Member Bodies of the following countries :

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Australia	India	South Africa, Rep. of
Belgium	Israel	86a0bee Spain/180-3898-1976
Bulgaria	New Zealand	Sweden
Denmark	Norway	Turkey
France	Poland	United Kingdom
Germany	Portugal	Yugoslavia
Hungary	Romania	

The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

> Czechoslovakia Switzerland

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### Bases for design of structures – Notations – General symbols

#### **1 SCOPE AND FIELD OF APPLICATION**

This International Standard defines standard notations for structural design.

It covers only general terms which are necessary to this field of application and excludes terms relevant to a particular material (for example steel, concrete, wood, etc.) or to a special technical field (for example foundations, etc.), which will be defined separately.

It indicates only the symbols to be used and does not prejudice the exact definition of each term, which will be within the scope of other International Standards. A NUDA H

This International Standard has been established for use inc. regulations, standards, technical literature and design. It does not cover future developments in safety theories or new techniques in computer design.

However, for the time being, letter J (table 2) that been -3898-1576 When there is no likelihood of confusion, some or reserved for line printers and telex.

#### 2 TYPES OF SYMBOL

#### 2.1 Tables of letters and symbols

2.1.1 Table 1 gives general indications about the usage of different types of letter.

2.1.2 Tables 2, 3 and 4 give the meanings of letters when used as a main symbol.

2.1.3 Table 5 gives a list of special and mathematical symbols.

2.1.4 Tables 6, 7 and 8 give the meanings of letters or groups of letters when used as subscripts.

#### 2.2 Construction of symbols

The construction of a symbol to represent a given quantity or term shall be carried out as follows :

1) The main letter of the symbol shall be selected from table 2, 3, 4 or 5, based on consideration of dimensions and usage, as given in table 1.

2) An apostrophe (') can be used to represent compression (especially for geometrical or locational purposes).

3) Descriptive subscripts may be selected as desired. When subscripts other than those appearing in tables 6, 7 and 8 are used, a clear definition of their meaning shall be given.

4) In the construction of symbols, the first subscripts shall indicate the location, and the following subscripts https://standards.iteh.ai/catalog/standards/sist/428d2822-215/-4-56-5428 (nature, location, etc.)1).

all descriptive subscripts may be omitted.

6) Numerical figures may be used as subscripts.

7) The sign of a computed stress is given by positive (+) for tension, and negative (-) for compression.

Owing to the possibility of confusion, the following precautions must be taken :

- Where there is a possibility of confusing 1 (numeral) with I (letter) in some typewritten work, L shall be used in place of I (letter) where ambiguity would otherwise arise.

 Roman upper and lower case letter O shall not be used as a leading letter owing to the possibility of confusion with zero. The lower case o may, however, be used as a subscript, with the same meaning as 0 (zero).

- Greek lower case letters iota ( $\iota$ ), omicron (o) and upsilon (v) shall not be used owing to the possibility of confusing them with various Roman letters. For the same reason, it is recommended that, as far as possible, the use of kappa ( $\kappa$ ) and chi ( $\chi$ ) be avoided. When Greek lower case letters eta ( $\eta$ ), omega ( $\omega$ ) and mu ( $\mu$ ) are used, care must be taken in writing the letters to avoid confusion with Roman lower case letters n, w and u.

1) Where it is necessary to avoid confusion, it is recommended that a comma be used between the two categories of subscript.

Type of letter	Dimensions	Usage
Roman upper case	Force, force times length, length to a power other than 1, temperature	<ol> <li>Action and action-effects</li> <li>Area, first and second moments of area</li> <li>Elastic moduli (exception to the general rule)</li> <li>Temperature</li> </ol>
Roman lower case	Length, quotient of length and time to a power, force per unit length or area, mass, time	<ol> <li>Actions and action-effects per unit of length or area</li> <li>Linear dimensions (length, width, thickness, etc.)</li> <li>Strengths</li> <li>Velocity, acceleration, frequency</li> <li>Descriptive letters (subscripts)</li> <li>Mass</li> <li>Time</li> </ol>
Greek upper case	<u> </u>	Reserved for mathematics
Greek lower case	Dimensionless	<ol> <li>Coefficients and dimensionless ratios</li> <li>Strains</li> <li>Angles</li> <li>Densities (mass density and weight density) (exception to the general rule)</li> <li>Stresses (exception to the general rule)</li> </ol>

TABLE 1 - Letter guide for the construction of symbols

NOTE - Concepts not included in the table above shall comply with the nearest appropriate category listed.

## iTeh STANDARD PREVIEW

	Letter	(standaMeaningIteh.al)	1.1
	Α	Area	
	В	ISO 2(Void) 076	
	С	150 3(Void) 970	
	nttps <b>?</b> /stan	Flexural rigidity of plates and shells 28d2822-2137-47	58-8ee5
	E	Longitudinal modulus of elasticity 1076	
	E	Earthquake action 20040/ISO-3898-1970	
	F	Action in general	
	F	Force in general	
	G	Shear modulus	
	G	Permanent load (dead load)	
	H	Horizontal component of a force	
		Second moment of a plane area	
	J	(Reserved for line printers and telex)	
	ĸ	(Void)	
	L	Can be used for span, length of a member (see table 3)	
	M	Moment in general	
	M	Bending moment	
	N	Normal force	
	0	(To be avoided as far as possible)	
		Prestressing force	
	Q (or $V$ )	Variable load (Live load) 1/2/	
	R	Resultant force	
	<sup>•</sup> R	Reaction force	
	S	First moment of a plane area (Static moment)	1
-		Action-effect (Sollicitations)	
	S(or Sn)	Show load (Sn where there is a risk of confusion)	
	/ +		
		(Void)	
	V (m O)	(Volu)	
		Shear force-/	
		Volume Vertical component of a form	
	11/100 7)	Section modulus <sup>2</sup>	
		Mind load	
		Earco in general parallel to x-axis	
		Force in general parallel to wavis	
	7	Force in general parallel to z-axis	
	ZIOTWA	Section modulus2)	
			J

1) With a subscript if it is necessary to define an imposed load more precisely.

<sup>2)</sup> Subject to a future definite choice, either letter may be used according to existing national customs.

TABLE 3 - Roman lower case letters

			· · ·	
Letter	Meaning	Letter	Symbol	Meaning apple
_	Distance	alpha	ά	Angle; Ratio
а	Distance	Deta	β	Moight donsity
а	Acceleration	gamma	γ ~	Safety factor
Ь	Width	gamma	2 2	Shear strain2)
С	(Void)	delta	δ	Coefficient of variation
d	Diameter	epsilon	e	Strain
d	Depth (for example foundation)	i xi	ξ	(x/l
þ	Eccentricity	eta	η	Relative co-ordinates { y/l
ý F	Strength 1) 2)	zeta	\$	
~	Distributed sermenent lead (Deed lead)	tneta	θ	Rotation (Void)
y	Distributed permanent load (Dead load)	kanna	i V	(To be avoided as far as possible)
g	Acceleration due to gravity	lambda	λ	Slenderness ratio
h	Height	mu	u n	Coefficient of friction
h	Thickness	nu	ν	Poisson's ratio
i 🦾	Radius of gyration	omicron	о	(To be avoided as far as possible)
j	Number of days	pi	π	(Mathematical use only)
k k	Coefficient	rho	ρ	Mass density
1	Shan: Length of a member3)	sigma	σ	Normal stress (73) 47
, 	Con be used as banding memory usit of length	unsilon	$\tau$	(Void)
m	Can be used as bending moment per unit of length	nhi	(d)	l imiting value of angle of friction
	or width	, ,	ψιψι	(for example for soils)
m	Mass	chi	x	(To be avoided as far as possible
m	Average value	psi	$\widehat{\psi}$	(Void)
n	Can be used as normal force per unit of length	omega	$\omega$ .	(Void)
o p or v)	(Void) IANDAN (Void) Distributed variable load (Live load) <sup>4)3</sup> 70 ards	2) For s subscripts 3) Some	near strain, i Example : $\epsilon_2$ countries u	t is also possible to use $\epsilon$ with asymmetry or $\epsilon_{yz}$ . Se $f$ with subscript for stress, but $\epsilon_{yz}$ .
r	Badius	recommen	ded (see table	
				3).
s	Standard deviation	4) For sl	near stress, it	: is also possible to use $\sigma$ with asymme
\$. \$	Standard deviation	4) For sl 976 subscripts.	the stress, it Example : $\sigma_2$	s 3). is also possible to use σ with asymme 23 or σ <sub>VZ</sub> .
s . s	Standard deviation Spacing ISO 3898:	4) For sl 1976 subscripts.	near stress, it Example : $\sigma_2$	is also possible to use $\sigma$ with asymmetry of $\sigma_{yz}$ .
s . s s	Standard deviation Spacing ISO 3898: Distributed snowpoodtandards.itch.ai/catalog/standards	4) For sl 1976 subscripts. /sist/428d2822-	hear stress, it Example : $\sigma_1^2$ 2137-4758-8	s 3). is also possible to use σ with asymme <sub>23</sub> or σ <sub>yz</sub> . Ree5-
s s t	Standard deviation Spacing ISO 3898: Distributed snow load and ards.itch.ai/catalog/standards Time in general 86a0bee28046/iso	4) For st 1976 subscripts. /sist/428d2822-1 -389.8-1976	tear stress, it Example : σ 2137-4758-8	s σ). is also possible to use σ with asymme 23 or σ <sub>yz</sub> . See5-
s s t t	Standard deviation Spacing ISO 3898: Distributed snow load and ards itch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members	4) For si 1976 subscripts. /sist/428d2822- -3898-1976	tear stress, it Example : σ 2137-4758-8	a 3). is also possible to use σ with asymme 23 or σ <sub>yz</sub> . See5-
s s t t t	Standard deviation Spacing <u>ISO 3898</u> ; Distributed snow load and ards, itch ai/catalog/standards Time in general <u>86a0bee28046/iso</u> Thickness of thin members Can be used as torsional moment per unit of length	4) For si 1976 subscripts. /sist/428d2822- -3898-1976	tear stress, if Example : σ 2137-4758-δ	a 3). is also possible to use σ with asymme 23 or σ <sub>yz</sub> . See5-
s s t t t	Standard deviation Spacing ISO 3898: Distributed snow load and ards, itch ai/catalog/standards Time in general 86a0bec28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width	4) For si 1976 subscripts. /sist/428d2822- -3898-1976	TABLE 5	a 3). is also possible to use σ with asymme 23 or σ <sub>yz</sub> . Ree5-
s s t t t	Standard deviation Spacing ISO 3898: Distributed snow load and ards itch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter	4) For si 1976 subscripts. /sist/428d2822- -3898-1976	TABLE 5 –	s 3). is also possible to use σ with asymme 23 Or σ <sub>yz</sub> . Ree5- Mathematical and special symbols
s s t t t u u	Standard deviation Spacing ISO 3898: Distributed snow load and ards itch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter	4) For si 1976 subscripts. /sist/428d2822- -3898-1976	TABLE 5 –	a 3). is also possible to use σ with asymme 23 or σyz. Bee5- Mathematical and special symbols
s s t t t u v	Standard deviation Spacing ISO 3898: Distributed snow load and and sitch ai/catalog/standards Time in general 86a0bec28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point	4) For si 1976 subscripts. /sist/428d2822- -3898-1976 Symb	tear stress, it Example : σ 2137-4758-8 TABLE 5 -	a 3). is also possible to use σ with asymme 23 or σyz. Bee5- Mathematical and special symbols Meaning
s s t t t u v w	Standard deviation Spacing ISO 3898: Distributed snow load and ards itch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point	4) For si 1976 subscripts. /sist/428d2822- -3898-1976 Symb	TABLE 5 –	s 3). is also possible to use σ with asymme <sub>23</sub> or σ <sub>γz</sub> . See5- Mathematical and special symbols Meaning
s s t t t u v w	Standard deviation Spacing ISO 3898: Distributed snow load and ards, itch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point Velocity: Speed	4) For si 1976 subscripts. /sist/428d2822- -3898-1976 Symb Σ	TABLE 5 – I	s 3). is also possible to use σ with asymme 23 <sup>or σ</sup> <i>yz</i> . See5- Mathematical and special symbols <u>Meaning</u>
s s s t t u v v v v v v v v	Standard deviation Spacing ISO 3898: Distributed snow load and ards, itch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point Velocity; Speed Can be used as shear force per unit of length	4) For si subscripts. /sist/428d2822- -3898-1976 Symb Σ τουτο Δ	TABLE 5 – 1 ol	<ul> <li>33.</li> <li>is also possible to use σ with asymmetric grave and special symbols</li> <li>Meaning</li> <li>erence; Increment neter (for example reinforcing bar</li> </ul>
$\left.\begin{array}{c}s\\s\\t\\t\\u\\v\\w\end{array}\right\}$	Standard deviation Spacing ISO 3898: Distributed snow load and ards, itch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point Velocity; Speed Can be used as shear force per unit of length or width5)	4) For si subscripts. /sist/428d2822- -3898-1976	TABLE 5 – J ol	a 3). is also possible to use σ with asymme 23 or σyz- See5- Mathematical and special symbols <u>Meaning</u> erence; Increment neter (for example reinforcing bar, is, etc.)
$\begin{cases} s \\ s \\ s \\ t \\ t \\ t \\ v \\ v \\ v \\ v \\ v \\ v \\ v$	Standard deviation Spacing ISO 3898: Distributed snow load and ards.itch.ai/catalog/standards Time in general 86a0bce28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point Velocity; Speed Can be used as shear force per unit of length or width <sup>5</sup> )	4) For si subscripts. /sist/428d2822- -3898-1976 Symb Σ τ	TABLE 5 – J ol Suff pole	<ul> <li>33.</li> <li>is also possible to use σ with asymme 23 or σyz.</li> <li>See5-</li> <li>Mathematical and special symbols</li> <li>Meaning</li> <li>erence; Increment neter (for example reinforcing bar, is, etc.) pression (especially for geometrice) or</li> </ul>
$\left.\begin{array}{c} s\\ s\\ s\\ t\\ t\\ v\\ v\\ w\\ v\\ v\\$	Standard deviation Spacing ISO 3898: Distributed snow load and and sitch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point Velocity; Speed Can be used as shear force per unit of length or width <sup>5</sup> ) Distributed wind load	4) For si subscripts. /sist/428d2822- -3898-1976 Symb Σ Symb Σ ···································	TABLE 5 – 1 ol Sum phe) Com	<ul> <li>37.</li> <li>is also possible to use σ with asymmetry of σyz.</li> <li>30 σ σyz.</li> <li>30 Sec5-</li> <li>Meaning</li> <li>erence; Increment neter (for example reinforcing bar, is, etc.)</li> <li>apression (especially for geometrical or trional purposes)</li> </ul>
$ \begin{array}{c} s\\s\\t\\t\\t\\v\\w\\v\\v\\or q\\\end{array}\right) $	Standard deviation Spacing ISO 3898: Distributed snow load and ards itch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point Velocity; Speed Can be used as shear force per unit of length or width <sup>5</sup> ) Distributed wind load	4) For si subscripts. /sist/428d2822- -3898-1976 Symb	TABLE 5	<ul> <li>33.</li> <li>is also possible to use σ with asymme 23 or σyz.</li> <li>30.</li> <l< td=""></l<></ul>
$\left.\begin{array}{c} s\\ s\\ s\\ t\\ t\\ v\\ v\\$	Standard deviation Spacing ISO 3898: Distributed snow load and ards itch ai/catalog/standards Time in general 86a0bee28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point Velocity; Speed Can be used as shear force per unit of length or width <sup>5</sup> ) Distributed wind load Co-ordinates	4) For si subscripts. /sist/428d2822- -3898-1976 Symb Σ τουτοφ ' (apostro e	TABLE 5 – ol Surr pohe) Surr Diar river Doca Base Base	<ul> <li>33.</li> <li>is also possible to use σ with asymme 23 or σyz.</li> <li>See5-</li> </ul> Mathematical and special symbols Meaning erence; Increment neter (for example reinforcing bar, is, etc.) opression (especially for geometrical or tional purposes) of Maperian logarithms : 2,718 28
s s s t t t t t v v v v r q)	Standard deviation       ISO 3898:         Spacing       ISO 3898:         Distributed snow load andards itch al/catalog/standards         Time in general       86a0bec28046/iso         Thickness of thin members         Can be used as torsional moment per unit of length         or width         Perimeter         Components of the displacement of a point         Velocity; Speed         Can be used as shear force per unit of length         or width <sup>5</sup> )         Distributed wind load         Co-ordinates	4) For si subscripts. /sist/428d2822- -3898-1976 Symb Σ Symb Σ (apostro e π	TABLE 5 – OI Sum Diff Diar river Doca Base Rati	<ul> <li>33.</li> <li>is also possible to use σ with asymmetric grave and special symbols</li> </ul> Mathematical and special symbols Meaning erence; Increment neter (for example reinforcing bar, is, etc.) opression (especially for geometrical or tional purposes) of Naperian logarithms : 2,718 28 o of the circumference of a circle to its pater : 144 50
s s s s t t t v v v v v v v v v v r r r r	Standard deviation Spacing ISO 3898: Distributed snow load and ards itch ai/catalog/standards Time in general 86a0bec28046/iso Thickness of thin members Can be used as torsional moment per unit of length or width Perimeter Components of the displacement of a point Velocity; Speed Can be used as shear force per unit of length or width <sup>5</sup> ) Distributed wind load Co-ordinates Lever arm	4) For si subscripts. /sist/428d2822- -3898-1976 Symb Σ Symb Σ ···································	TABLE 5 – 1 ol Sum phe) Corr loca Base Rati dian	A 37. is also possible to use σ with asymm 23 Or σyz- See5- Mathematical and special symbols Meaning erence; Increment neter (for example reinforcing bar, is, etc.) hpression (especially for geometrical or tional purposes) of Naperian logarithms : 2,718 28 o of the circumference of a circle to its here : 3,141 59

countries use f with subscript for stress, but  $\sigma$  is rec-Some ommended.

2) Some countries use  $\sigma$  or  $\beta$  with subscript for strength, but f is recommended.

3) Can be replaced by L for some lengths or to avoid confusion with 1 (numeral).

4) With a subscript if it is necessary to define an imposed load more precisely.

5) See note 2 in table 2.

rable 6 – Genera	l subscripts -	Roman	lower case	letters <sup>1)</sup>
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#### TABLE 7 - Subscripts for actions and action-effects<sup>1)</sup>

Letter		Meaning			Letter	t strati	Meaning	A STATE OF
. (	Conversional stand			а	(A)	Accidental ad	tion <sup>2)</sup>	en eas l'
a (or sa)	Structural steel			eq f	(E) (E)	Earthquake a	ction	
D (or c)	Concrete			· f	(F)	Force in gen	ral	
c (or b)	Concrete			g	(G)	Permanent Ic	ad (Dead load)	
C	Compression in gel	nerai		m	(M)	Bending in ge	eneral	
d	Design <sup>2</sup>		1	n	(N)	Normal force		
e (or el)	Elastic limit <sup>3)</sup>			p	(P)	Pre-stressing	(Live load) 3) 4)	
f	Beam flange			L L L	$(\mathbf{U})$ or $\mathbf{v}(\mathbf{v})$	Action-effect	(Live load) of at	
f	Friction			s	(S)	Snow load	· · · · · · · · · · · · · · · · · · · ·	
g	Guaranteed		· .	ť	(T)	Torsion in ge	neral	
h h	Horizontal			t	(T)	Temperature		
i	Initial			v	(V) or q (Q)	Shear force4		
i	Number of days			. w	(VV)	wind load	· · · · · · · · · · · · · · · · · · ·	
k	Characteristic			- 1) W	/hen it is neces	sary for clarific	ation, Roman upper	case letter
1 .	Longitudinal		1	may l	be used as subs	cripts for action	s and action-effects.	
m	Average value			2) 11	there is a risk	of confusion, "a	ic'' may be used.	
m	Material			3) A	n imposed load	d must be define	d more precisely.	
 D	Net4)			4) S	ee note 2 to tal	ble 2.		
	Zero					• • • • • •		
n (or sn)	Prestressing steel							
р (ог ор) 0	· · · · · · · · · · · · · · · · · · ·	(Void)			TABLES			. 1)
4		(Void)			IABLE 8 -	- Subscripts for	ned from appreviatio	ns'/
	Reinforcing steel	(VOIU)		· · /	Letters		Mooning	
ta ta ta	Tension in report						weammu	
ι I							wearing	······
•	Tension in general	iToh	STAND.		abs <b>DD</b>	Absolute	Wearning	······································
t	Transversal	iTeh	<b>STAND</b>	ARI	adm <b>PRE</b>	Absolute Admissible ( Calculated <sup>2</sup> )	Permissible)	
u t	Transversal Ultimate	iTeh	STAND		abs adm <b>PRE</b> al prit (or cr)	Absolute Admissible ( Calculated <sup>2)</sup> Critical	Permissible)	······································
u u v	Transversal Ultimate Vertical	iTeh	STANDA (standa)	<b>AR</b> rds.	abs adm PRE al orit (or cr)	Absolute Admissible ( Calculated <sup>2)</sup> Critical Effective	Permissible)	
t u v w	Transversal Ultimate Vertical Web	iTeh	STANDA (standa)	<b>AR</b> rds.	abs adm PRE al rit (or cr) r <b>ten.al</b> I (or e)	Absolute Admissible ( Calculated <sup>2</sup> ) Critical Effective Elastic in ger	Permissible) eral	
t u v w x	Transversal Ultimate Vertical Web Co-ordinate	iTeh	STANDA (standa)		abs iai rit (or cr) ften.ai el (or e) st	Absolute Admissible ( Calculated <sup>2</sup> ) Critical Effective Elastic in ger Estimated	Permissible) eral	······································
t v w x y	Transversal Ultimate Vertical Web Co-ordinate Co-ordinate	iTeh	STANDA (standa)	<b>AR</b> <b>rds</b> 3898:15	abs adm rit (or cr) <b>ften.al</b> el (or e) st exc	Absolute Admissible ( Calculated <sup>2</sup> ) Critical Effective Elastic in ger Estimated Exceptional	Permissible) eral	
t v w x y y	Transversal Ultimate Vertical Web Co-ordinate Co-ordinate Yield	iTeh	STANDA (standa) <u>ISO</u> Is iteh ai/catalogistar	<b>AR</b> <b>rds</b> <u>3898:1</u> 9	abs adm PRE al orit (or cr) or ten.ai est est est est pr(428d2822-	Absolute Admissible ( Calculated <sup>2</sup> ) Critical Effective Elastic in ger Estimated Exceptional External	Permissible) Ieral	
t v w x y y z	Transversal Ultimate Vertical Web Co-ordinate Co-ordinate Yield Co-ordinate	iTeh	STANDA (standa) <u>ISO</u> Is.iteh.ai/catalog star	AR rds. 3898:1 dards/s	bs bdm PRE al rit (or cr) rit (or cr) rit (or e) st ist ixc rit rit rit (or e) st ixc rit rit (or e) st ixc rit (or e) st ixc rit (or e) st ixc rit (or e) st ixc rit (or e) st ixc rit (or e) st ixc rit (or e) st ixc (or e) st ixc (or e) st (or e) st (or e) st (or e) (or e	Absolute Admissible ( Calculated <sup>2</sup> ) Critical Effective Elastic in ger Estimated Exceptional External Inferior8-8e Internal	Permissible) eral 25-	
t u v w x y y z 0, 1, 2, etc.	Transversal Ultimate Vertical Web Co-ordinate Co-ordinate Yield Co-ordinate Particular values	iTeh	STANDA (standa) I <u>SO</u> Is.iteh.ai/catalog.star 86a0bee280	AR rds. 3898:15 dards/s 46/iso-1	bs bgm PRE al rit (or cr) rt <b>Cen.al</b> i (or e) st ist ixc xrt af 428d2822- nt 98-1976	Absolute Admissible ( Calculated <sup>2</sup> ) Critical Effective Elastic in ger Estimated Exceptional External 1 Inferior 8-8e Internal Lateral	Permissible) eral e5-	
t u v w x y y z 0, 1, 2, etc. ∞	Transversal Ultimate Vertical Web Co-ordinate Co-ordinate Yield Co-ordinate Particular values Asymptotic value	iTeh	STANDA (standa) <u>ISO</u> Is.iteh.ai/catalog star 86a0bee280	AR rds. 3898:15 dards/s 46/iso-	bs bgm PRE al rit (or cr) rten.al st st st st st st st st st st	Absolute Admissible ( Calculated <sup>2</sup> ) Critical Effective Elastic in ger Estimated Exceptional External Inferior8-8e Internal Lateral Limit	Permissible) eral	
t u w x y y z 0, 1, 2, etc. ∞	Transversal Ultimate Vertical Web Co-ordinate Co-ordinate Yield Co-ordinate Particular values Asymptotic value	iTeh	STANDA (standa) I <u>SO</u> Is.iteh.ai/catalog star 86a0bee280	ARI rds. 3898:15 dards/s 46/iso-	bs bgm PRE al rit (or cr) rten.al i (or e) st ixc ixt at 428d2822- nt 428d2822- nt 98-1976 im nax	Absolute Admissible ( Calculated <sup>2</sup> ) Critical Effective Elastic in ger Estimated Exceptional External Inferior8-8e Internal Lateral Limit Maximum	Permissible) eral	
t u v w x y z 0, 1, 2, etc. ∞	Transversal Ultimate Vertical Web Co-ordinate Co-ordinate Yield Co-ordinate Particular values Asymptotic value	iTeh	STANDA (standa) (standa) IS.iteh.ai/catalog star 86a0bee280	AR rds 3898:15 adards/s 46/iso-	bs bgm PRE al rit (or cr) rten.al if (or e) sst sst sst sst sst sst sst ss	Absolute Admissible ( Calculated <sup>2</sup> ) Critical Effective Elastic in ger Estimated Exceptional External 21 Inferior 8-80 Internal Lateral Limit Maximum Minimum	Permissible) eral	

2) To be used only when there is no risk of confusion

3) If necessary, a suitable subscript may be added or substituted in order to define the elastic limit more precisely (for example : y; 0, 1, etc.).

4) If there is a risk of confusion, "net" shall be used.

1) As far as possible, abbreviations which are not contained in this table should be derived from words having Latin roots.

Plastic

Reduced

Relative

Superior

Total Variable

Serviceability

2) As opposed to "observed".

рІ

red

rel

ser

sup

tot var

## iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>ISO 3898:1976</u> https://standards.iteh.ai/catalog/standards/sist/428d2822-2137-4758-8ee5-86a0bee28046/iso-3898-1976

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<u>ISO 3898:1976</u> https://standards.iteh.ai/catalog/standards/sist/428d2822-2137-4758-8ee5-86a0bee28046/iso-3898-1976