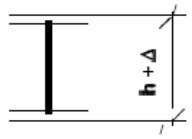
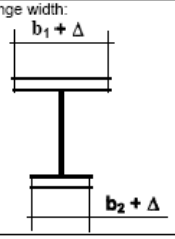
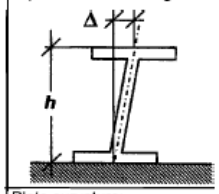
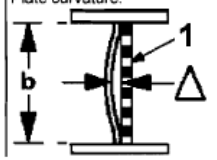
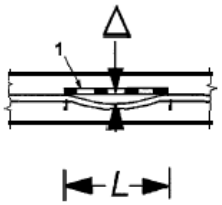
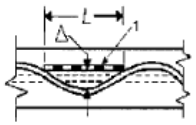
Univerza
v Ljubljani
Fakulteta za
gradbeništvo in geodezijo
Katedra za metalne konstrukcije

JSM

GEOMETRIJSKE TOLERANCE

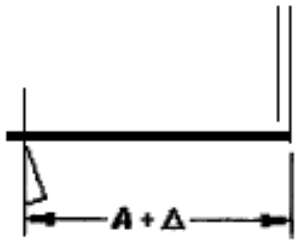
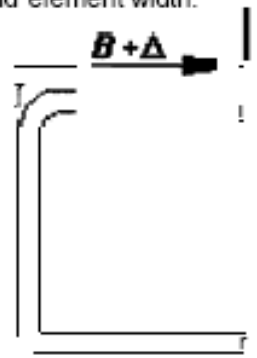
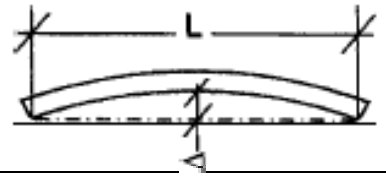
BISTVENE TOLERANCE PRI IZDELAVI

Varjeni profili

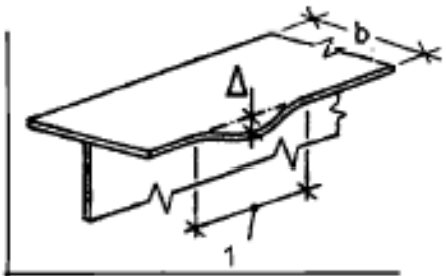
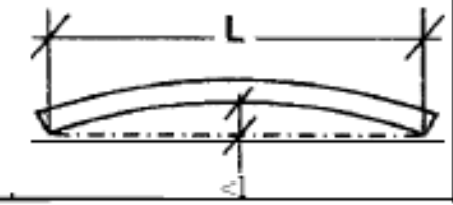
No	Criterion	Parameter	Permitted deviation Δ
1	Depth: 	Overall depth *h*:	$\Delta = -h/150$ (no positive value given)
2	Flange width: 	Width $b = b_1$ or b_2:	$\Delta = -b/100$ (no positive value given)
3	Squareness at bearings: 	Verticality of web at supports, for components without bearing stiffeners:	$\Delta = \pm h/200$ but $\Delta \geq t_w$ (t_w = web thickness)
4	Plate curvature: 	Deviation Δ over plate height *b*:	$\Delta = \pm b/100$ but $\Delta \geq t$ (*t* = plate thickness)
5	Web distortion: 	Deviation Δ on gauge length *L* equal to plate length *b*:	$\Delta = \pm b/100$ but $\lvert\Delta\rvert \geq t$ (*t* = plate thickness)
6	Web undulation: 	Deviation Δ on gauge length *L* equal to plate length *b*:	$\Delta = \pm b/100$ but $\lvert\Delta\rvert \geq t$ (*t* = plate thickness)

Key
1 gauge length
NOTE Notations such as $|\Delta| = d/100$ but $|\Delta| \geq t$ mean that the *larger* of the two values is permitted.

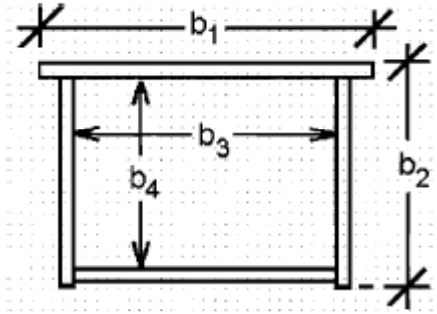
Hladno oblikovani profili

No	Criterion	Parameter	Permitted deviation Δ
1	Internal element width: 	Width A between bends:	$-\Delta = A/50$ (no positive value given)
2	Outstand element width: 	Width B between a bend and a free edge:	$-\Delta = B/80$ (no positive value given)
3	Straightness for components to be used unrestrained: 	Deviation Δ from straightness	$\Delta = \pm L/750$

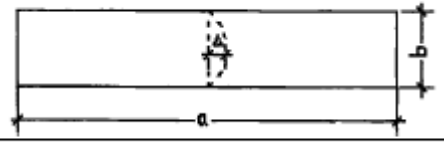
Pasnice varjenih prerezov

No	Criterion	Parameter	Permitted deviation Δ
	Flange distortion of I section: 	Distortion Δ on gauge length L where L = width b	$\Delta = \pm b/100$
2	Flange undulation of I section: 	Distortion Δ on gauge length L where L = flange width b	$\Delta = \pm b/100$
3	Straightness for components to be used unrestrained: 	Deviation Δ from straightness	$\Delta = \pm L/750$
Key 1 gauge length			

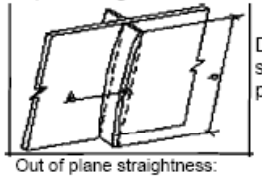
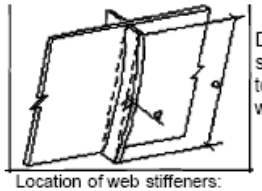
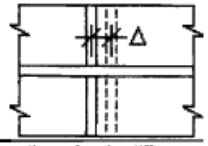
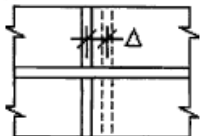
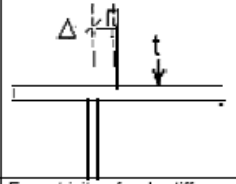
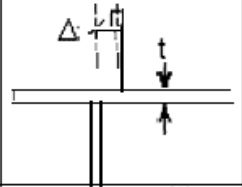
Pasnice varjenih škatlastih prerezov

No	Criterion	Parameter	Permitted deviation Δ
1	Section dimensions: 	Internal or external dimensions: where: $b = b_1, b_2, b_3$ or b_4	$-\Delta = b/100$ (note negative sign)

2	Out of plane imperfections of plate panels between webs or stiffeners, general case:
	 
		Distortion Δ perpendicular to the plane of the plate:
		if $a \leq 2b$:
		if $a > 2b$:
			$\Delta = \pm a/250$
			$\Delta = \pm b/125$

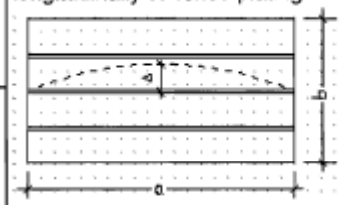
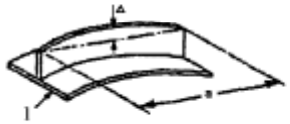
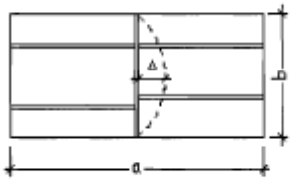
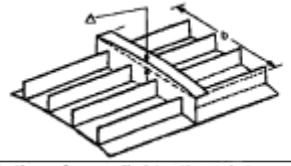
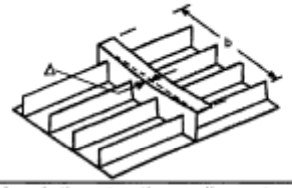
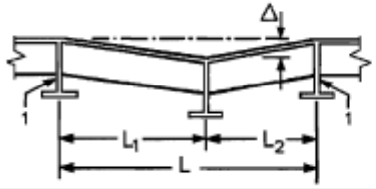
3	Out of plane imperfections of plate panels between webs or stiffeners (special case with compression in the transverse direction - the general case applies unless this special case is specified):
	 
		Distortion Δ perpendicular to the plane of the plate:
		if b 2a:
		if b > 2a:
			$\Delta = \pm b/250$
			$\Delta = \pm a/125$

Ojačitve stojin profilov ali škatlastih prerezov

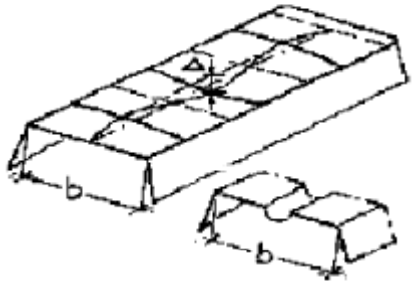
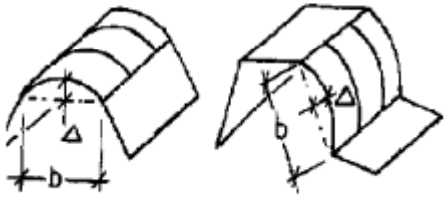
No	Criterion	Parameter	Permitted deviation Δ
	In plane straightness: 	Deviation Δ from straightness in the plane of the web:	$\Delta = \pm b/250$ but $\lvert\Delta\rvert \geq 4$ mm
2	Out of plane straightness: 	Deviation Δ from straightness normal to the plane of the web:	$\Delta = \pm b/500$ but $\lvert\Delta\rvert \geq 4$ mm
3	Location of web stiffeners: 	Distance from intended location:	$\Delta = \pm 5$ mm
4	Location of web stiffeners at supports: 	Distance from intended location:	$\Delta = \pm 3$ mm
5	Eccentricity of web stiffeners: 	Eccentricity between a pair of stiffeners:	$\Delta = \pm t_w/2$
6	Eccentricity of web stiffeners at supports: 	Eccentricity between a pair of stiffeners:	$\Delta = \pm t_w/3$

NOTE Notations such as $\lvert\Delta\rvert = d/100$ but $\lvert\Delta\rvert \geq 5$ mm mean that the *larger* of the two values is permitted.

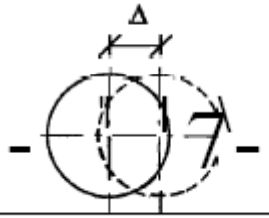
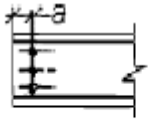
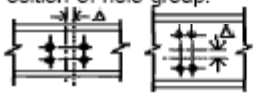
Ojačane pločevine

No	Criterion	Parameter	Permitted deviation Δ
1	Straightness of stiffeners: Longitudinal stiffeners in longitudinally stiffened plating:  **Key** 1 plate	Deviation Δ perpendicular to the plate: 	Δ = ± *a*/400
2		Deviation Δ parallel to the plate: 	Δ = ± *b*/400
3	Straightness of stiffeners: Transverse stiffeners in transversely and longitudinally stiffened plating: 	Deviation Δ perpendicular to the plate: 	Smaller of: Δ = ± *a*/400 or Δ = ± *b*/400
4		Deviation Δ parallel to the plate: 	Δ = ± *b*/400
5	Levels of cross frames in stiffened plating: **Key** 1 cross member	Level relative to the adjacent cross frames: 	Δ = ± *L* / 400

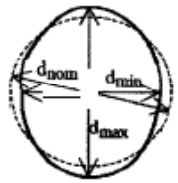
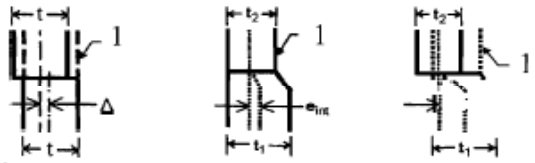
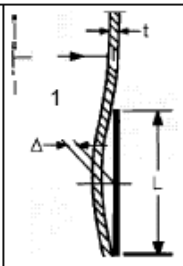
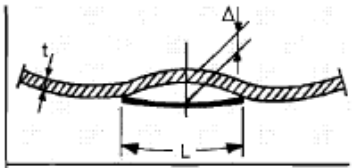
Hladno oblikovana profilirana pločevina

No	Criterion	Parameter	Permitted deviation Δ
1	Flatness of unstiffened or stiffened flange or web: 	Deviation Δ from flatness of nominally flat element	$\Delta \leqq \pm b/50$
2	Curvature of web or flange: 	Deviation Δ from intended shape of web or flange over curve width *b*	$\Delta \leqq \pm b/50$

Luknje za vijake, izrezi in robovi

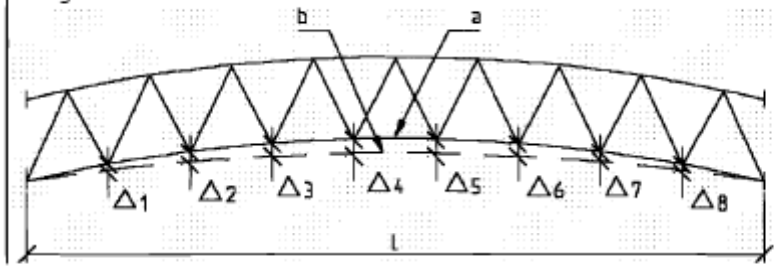
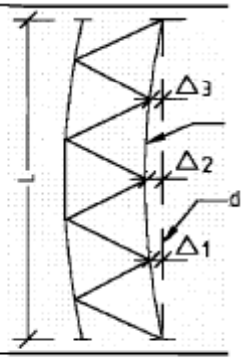
No	Criterion	Parameter	Permitted deviation Δ
1	Position of holes for fasteners: 	Deviation Δ of centreline of an individual hole from its intended position within a group of holes:	mm
2	Position of holes for fasteners: 	Deviation Δ in distance a between an individual hole and a cut end:	- Δ = 0 (no positive value given)
3	Position of hole group: 	Deviation Δ of a hole group from its intended position:	Δ = ± 2 mm

Cilindrične in stožčaste lupine

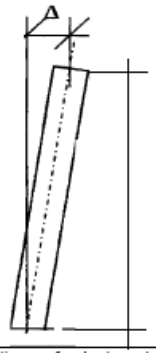
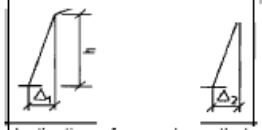
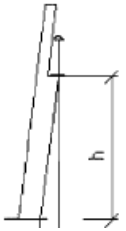
No	Criteria and details
1	Out-of-roundness:  a) flattening  b) unsymmetrical Difference between the maximum and minimum values of the measured internal diameter, relative to the nominal internal diameter: $\Delta = \frac{(d_{max} - d_{min})}{d_{nom}}$ Tolerances Permitted deviation Δ Diameter: $d \leq 0{,}50$ m | $0{,}50\ \text{m} < d < 1{,}25$ m | $d \geq 1{,}25$ m Class A: $\Delta = \pm 0{,}014$ | $\Delta = \pm (0{,}007 + 0{,}009\ 3\ (1{,}25 - c))$ | $\Delta = \pm 0{,}007$ Class B: $\Delta = \pm 0{,}020$ | $\Delta = \pm (0{,}010 + 0{,}013\ 3\ (1{,}25 - c))$ | $\Delta = \pm 0{,}010$ Class C: $\Delta = \pm 0{,}030$ | $\Delta = \pm (0{,}015 + 0{,}020\ 0\ (1{,}25 - c))$ | $\Delta = \pm 0{,}015$ NOTE d is the nominal internal diameter d_{nom} in metres.
2	Misalignment: Non-intended eccentricity of plates at a horizontal joint. At a change of plate thickness, the intentional part of the eccentricity is not included.  Key 1 intended joint geometry Tolerances Class: Permitted deviation Δ Class A: $\Delta = \pm 0{,}14t$ but $\lvert\Delta\rvert \leq 2$ mm Class B: $\Delta = \pm 0{,}20t$ but $\Delta \leq 3$ mm Class C: $\Delta = \pm 0{,}30t$ but $\Delta \leq 4$ mm At a change of plate thickness: $t = (t1 + t2)/2$ $\Delta = e_{tot} - e_{int}$ where $t1$ is the larger thickness; $t2$ is the smaller thickness.
3	Dents (Dimples): a) Meridionally: $L = 4\ (rt)0.5$ b) Circumferentially (gauge radius = r): $L = 4\ (rt)0.5$ $L = 2{,}3\ (h^2 rt)0.25$ but $L \leq r$ where h is the axial length of the shell segment c) Additionally, across welds: $L = 25t$ but $L \leq 500$ mm NOTE At a change of thickness: $t = t2$ Key 1 inward   Tolerances Class: Permitted deviation Δ Class A: $\Delta = \pm 0{,}006L$ Class B: $\Delta = \pm 0{,}010L$ Class C: $\Delta = \pm 0{,}016L$

NOTE With reference to the manufacturing tolerance quality classes in EN 1993-4-1, Class A = Excellent, Class B = High and Class C = Normal.

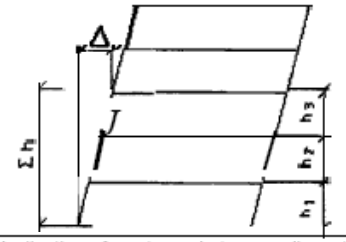
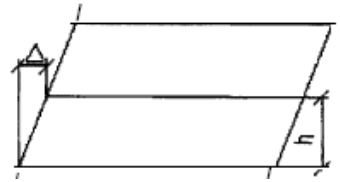
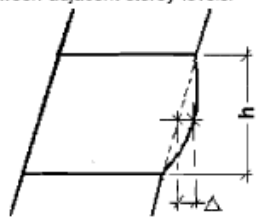
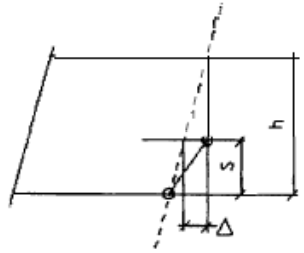
Elementi paličja

No	Criterion	Parameter	Permitted deviation
1	Straightness and camber:   NOTE Deviations measured after welding, with the component lying flat on its side. Key a actual camber *b* intended camber *c* actual line *d* intended line	Deviation at each panel point, relative to a straight line - or to the intended camber or curvature.	$\Delta = \pm U500$ But $\lvert\Delta\rvert \geq 12$ mm
2	Straightness of bracing cam onents:	Deviation of bracing from strai htness:	$\Delta = \pm U750$ but $\Delta \geq 6$ mm
NOTE Notation such $\Delta = \pm L / 500$ but $\Delta \geq 6$ mm means that the *larger* of the two values is permitted.			

Stebri za enoetažo objekte

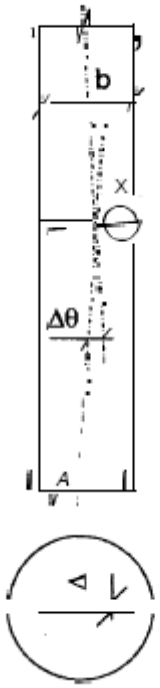
No	Criterion	Parameter	Permitted deviation Δ
1	Inclination of single-storey columns generally: 	Overall inclination in storey height *h*:	$\Delta = \pm h/300$
2	Inclination of single storey columns in portal frame buildings: 	Mean inclination of all the columns in the same frame: [For two columns: $\Delta = (\Delta_1 + \Delta_2)/2$]	$\Delta = \pm h/500$
3	Inclination of any column that supports a crane gantry: 	Inclination from floor level to bearing of crane beam:	$\Delta = \pm h/1000$
4	Straightness of a single storey column: 	Location of the column in plan, relative to a straight line between position points at top and bottom: - generally - structural hollow sections	$\Delta = \pm hl750$ $\Delta = \pm hl750$

Sterbri za več etažne objekte

No	Criterion	Parameter	Permitted deviation Δ
1	Location at each storey level, relative to that at the base level: 	Location of the column in plan, at any storey level relative to a vertical line through its centre at base level:	$\Delta = \pm \Sigma h/(300\sqrt{n})$
2	Inclination of a column, between adjacent storey levels: 	Location of the column in plan, relative to a vertical line through its centre at the next lower level:	$\Delta = \pm h/500$
3	Straightness of a continuous column between adjacent storey levels: 	Location of the column in plan, relative to a straight line between position points at adjacent storey levels:	$\Delta = \pm h/750$
4	Straightness of a spliced column, between adjacent storey levels: 	Location of the column in plan at the splice, relative to a straight line between position points at adjacent storey levels:	$\Delta = \pm s/750$ with $s \leq h/2$

NOTE Table D.1.12 multi-storey columns applies to that are continuous over more than one storey.
Table D.1.11 single storey columns applies to storey-height columns in multi-storey buildings.

Polni kontakt in nosilnost

No	Criterion	Parameter	Permitted deviation Δ
1		Local angular misalignment Δθ occurring at the same time as gap Δ at point "X"	$\Delta\theta = \pm \frac{h}{500}$ where h is the storey height (see 0.1.11 N04) and at the same time: • Δ = 0,5 mm over at least two thirds of the area, and • Δ = 1,0 mm maximum locally

Stolpi in jambori

No	Criterion	Parameter	Permitted deviation Δ
1	Straightness of legs and chord components:	Straightness of portion (L) between joint locations.	$U1000$
2	Main dimensions of mast cross section and bracing:	Panel < 1 000 mm: Panel ≥ 1 000 mm:	Δ = ± 3 mm Δ = ± 5 mm
3	Position of centre of bracing components at joints:	Location relative to intended location	Δ = ± 3 mm
4	Alignment of centres of leg components in a joint:	Relative location of the two portions of the	Δ = ± 2 mm
5	Verticality of a mast:	Deviation from verticality of a line between any two points on the intended vertical axis of the structure, when measured in still air	Δ = ± 0,05 % but |Δ| ≥ 5 mm
6	Verticality of a tower:		Δ = ± 0,10 % but |Δ| ≥ 5 mm
7	Twist Δ over full height of structure rsee NOTE 1]:	Structure < 150 m: Structure ≥ 150 m:	Δ = ± 2,0° Δ = ± 1,5°
8	Twist Δ between adjacent levels of the structure rsee NOTE 1]:	Structure < 150 m: Structure ≥ 150 m:	Δ = ± 0,10° per 3 metres Δ = ± 0,05° per 3 metres

NOTE 1 twist criterion is not applicable to towers with permanent lateral loading.
NOTE 2 Notations such as |Δ| = 0,10 % but |Δ| ≥ 5 mm mean that the *larger* of the two values is permitted.

Upogibno obremenjeni nosilci in tlačno obremenjeni elementi

No	Criterion	Parameter	Permitted deviation
1	Straightness of beams subject to bending and components subject to compression if unrestrained	Deviation Δ from straightness	$\Delta = U750$

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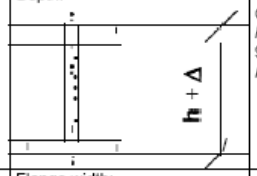
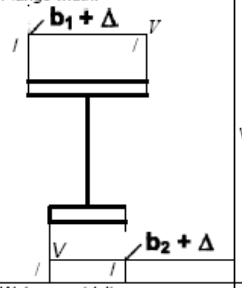
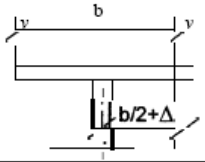
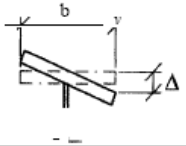
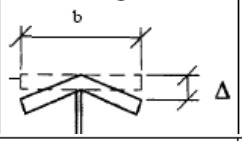
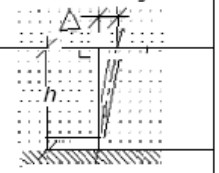
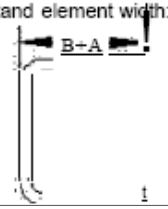
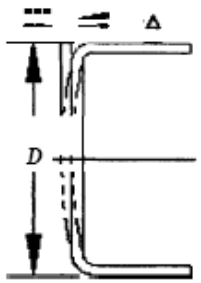
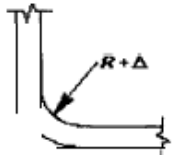
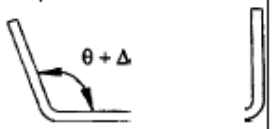
Varjeni profili

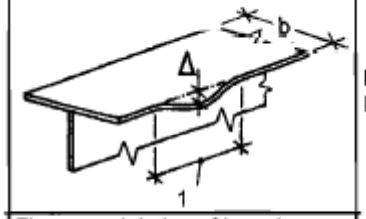
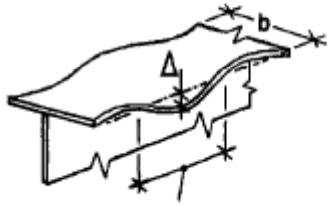
No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
1	Depth: 	Overall depth *h*: $h \leq 900$ mm $900 < h \leq 1\,800$ mm $h > 1\,800$ mm	$\Delta = \pm 3$ mm $\Delta = \pm h/300$ $\Delta = \pm 6$ mm	$\Delta = \pm 2$ mm $\Delta = \pm h/450$ $\Delta = \pm 4$ mm
2	Flange width: 	Width b_1 or b_2	$+\Delta = b/100$ but $\lvert\Delta\rvert \geq 3$ mm	$+\Delta = b/100$ but $\lvert\Delta\rvert \geq 2$ mm
3	Web eccentricity: 	Position of web: - general case - flange parts in contact with structural bearings	$\Delta = \pm 5$ mm $\Delta = \pm 3$ mm	$\Delta = \pm 4$ mm $\Delta = \pm 2$ mm
4	Squareness of flanges: 	Out of squareness: - general case - flange parts in contact with structural bearings	$\Delta = \pm b/100$ but $\lvert\Delta\rvert \geq 5$ mm $\Delta = \pm b/400$	$\Delta = \pm b/100$ but $\lvert\Delta\rvert \geq 3$ mm $\Delta = \pm b/400$
5	Flatness of flanges: 	Out of flatness: - general case - flange parts in contact with structural bearings	$\Delta = \pm b/150$ but $\lvert\Delta\rvert \geq 3$ mm $\Delta = \pm b/400$	$\Delta = \pm b/150$ but $\lvert\Delta\rvert \geq 2$ mm $\Delta = \pm b/400$
6	Squareness at bearings: 	Verticality of web at supports, for components without bearing stiffeners	$\Delta = \pm h/300$ but $\lvert\Delta\rvert \geq 3$ mm	$\Delta = \pm h/500$ but $\lvert\Delta\rvert \geq 2$ mm

NOTE Notations such as $\Delta = \pm d/100$ but $\lvert\Delta\rvert \geq 5$ mm mean that the *larger* of the two values is permitted.

Hladno oblikovani profili

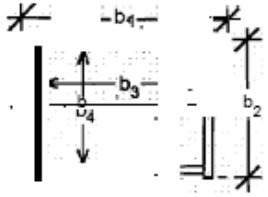
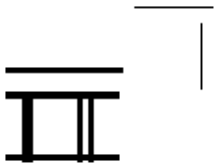
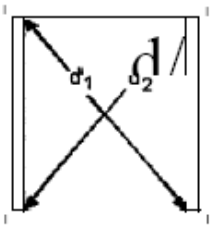
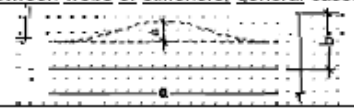
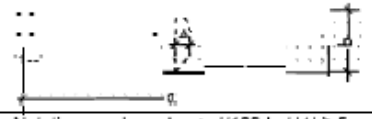
No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Internal element width: 	Width *A* between bends: *t* < 3 mm: Length < 7 m Length ≧ 7 m *t*> 3 mm: Length < 7 m Length ≧ 7 m	Δ = ± 3 mm Δ = - 3 mm *1*+ 5 mm Δ = ± 5 mm Δ = - 5 mm *1*+ 9 mm	Δ = ± 2 mm Δ = - 2 mm *1*+ 4 mm Δ = ± 3 mm Δ = - 3 mm *1*+ 6 mm
2	Outstand element width: 	Width B between a bend and a free edge: - Mill edge: *t* < 3 mm *t*> 3 mm - Sheared edge: *t*< 3 mm *t*> 3 mm	Δ = - 3 mm *1*+ 6 mm Δ = - 5 mm *1*+ 7 mm Δ = - 2 mm *1*+ 5 mm Δ = - 3 mm *1*+ 6 mm	Δ = - 2 mm *1*+ 4 mm Δ = - 3 mm *1*+ 5 mm Δ = - 1 mm *1*+ 3 mm Δ = - 2 mm *1*+ 4 mm
3	Flatness: 	Convexity or concavity	Δ = ± *0150*	Δ = ± *0/100*
4	Bend radius: 	Internal bend radius *R*	Δ = ± 2 mm	Δ = ± 1 mm
5	Shape: 	Angle *e* between adjacent components	Δ = ± 3°	Δ = ± 2°

Pasnice varjenih profilov

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Flange distortion of I section: 	Distortion Δ on gauge length = flange width b	$\Delta = \pm b/100$	$\Delta = \pm b/150$
2	Flange undulation of I section 	Distortion Δ on gauge length = flange width b	$\Delta = \pm b/100$	$\Delta = \pm b/150$
3	Flange straightness: 	Deviation from straightness	$\Delta = \pm L/500$	$\Delta = \pm L/1\ 000$

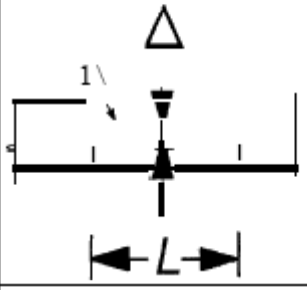
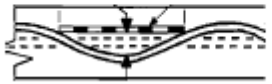
Key
1 gauge length

Varjeni škatlasti prerezi

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
1	Plate widths: 	Deviation in internal or external dimensions: $b < 900$ mm 900 mm $< b <$ 1 800 mm $b >$ 1 800 mm where $b = b1, b2, b3$ or $b4$	$\Delta = \pm 3$ mm $\Delta = \pm b/300$ $\Delta = \pm 6$ mm	$\Delta = \pm 2$ mm $\Delta = \pm b/450$ $\Delta = \pm 4$ mm
2	Twist 	Overall deviation Δ in a piece of length L	$\Delta = \pm L/700$ but 4 mm ≤ |Δ| ≤ 10 mm	$\Delta = \pm L/1\ 000$ But 3 mm ≤ |Δ| ≤ 8 mm
3	Squareness: 	Difference Δ between diagonal dimensions at diaphragm positions: $\Delta = Id1 - d2I$ Where $d1$ and $d2$ are significantly different $\Delta = \lvert (d1 - d2)_{actual} - (d1 - d2)_{intended} \rvert$	$\Delta = (d_1+d_2)/400$ but Δ ≥ 6 mm	$\Delta = (d_1+d_2)/600$ but Δ ≥ 4 mm
4	Out of plane imperfections of plate panels between webs or stiffeners, general case: 	Distortion Δ perpendicular to the plane of the plate: if $2b$ if $a > 2b$	$\Delta = \pm a/250$ $\Delta = \pm b/125$	$\Delta = \pm a/250$ $\Delta = \pm b/125$
5	Out of plane imperfections of plate panels between webs or stiffeners, (special case with compression in the transverse direction - the general case applies unless this special case is specified): 	Distortion Δ perpendicular to the plane of the plate: if $b \leq 2a$ if $b > 2a$	$\Delta = \pm b/250$ $\Delta = \pm a/125$	$\Delta = \pm b/250$ $\Delta = \pm a/125$

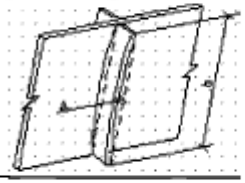
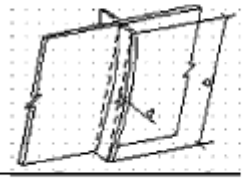
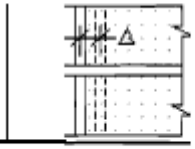
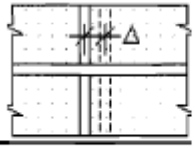
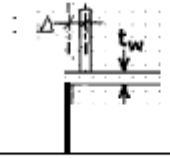
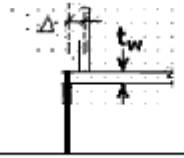
NOTE Notations such as $\Delta = \pm d/100$ but $|\Delta| \geq 5$ mm mean that the *larger* of the two values is permitted.

Stojine varjenih profilov ali škatlastih prerezov

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Web curvature: 	Deviation Δ on web heigth *b*	Δ = ± *b/100* but |Δ| ≥ 5 mm	Δ = ± *b/150* but |Δ| ≥ 3 mm
2	Plate distortion: 	Deviation Δ on gauge length *L* = web heigth *b*	Δ = ± *b/100* but |Δ| ≥ 5 mm	Δ = ± *b/150* but |Δ| ≥ 3 mm
3	Plate undulation: 	Deviation Δ on gauge length *L* = web heigth *b*	Δ = ± *b/100* but |Δ| ≥ 5 mm	Δ = ± *b/150* but |Δ| ≥ 3 mm
4	Castellated beams and cellular beams (fabricated either from plate or from hot-rolled sections) with openings of inscribed nominal diameter *O*	Misalignment of web post: - across thickness - overlap for opening of nominal radius *r*. *r* = *0/2* < 200 mm *r* = *0/2* ≥ 200 mm	Δ = ± 2 mm Δ = ± 2 mm Δ = ± *r/100* ≤ 5 mm	Δ = ± 2 mm Δ = ± 2 mm Δ = ± *r/100* ≤ 5 mm

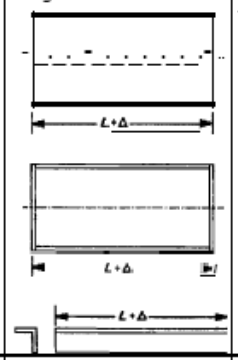
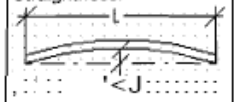
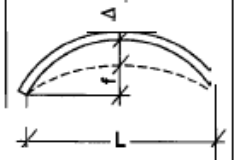
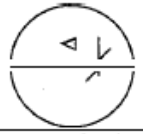
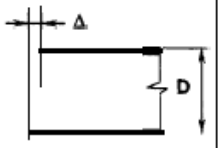
Key
1 gauge length
NOTE: Notations such as Δ = ± *d/100* but |Δ| ≥ 5 mm mean that the *larger* of the two values is permitted.

Ojačitve stojin varjenih profilov ali škatlastih prerezov

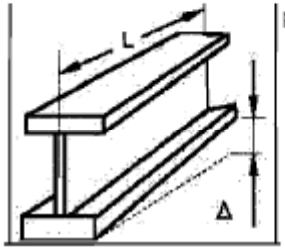
No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	In plane straightness: 	Deviation Δ from straightness in the plane of the web	$\Delta = \pm\, b/250$ but $\lvert\Delta\rvert \geq 4$ mm	$\Delta = \pm\, b/375$ but $\lvert\Delta\rvert \geq 2$ mm
2	Out of plane straightness: 	Deviation Δ from straightness normal to the plane of the web	$\Delta = \pm\, b/500$ but $\lvert\Delta\rvert \geq 4$ mm	$\Delta = \pm\, b/750$ but $\lvert\Delta\rvert \geq 2$ mm
3	Location of web stiffeners: 	Distance from intended location	$\Delta = \pm 5$ mm	$\Delta = \pm 3$ mm
4	Location of web stiffeners at support: 	Distance from intended location	$\Delta = \pm 3$ mm	$\Delta = \pm 2$ mm
5	Eccentricity of web stiffeners: 	Eccentricity between a pair of stiffeners	$\Delta = \pm\, t_w/2$	$\Delta = \pm\, t_w/3$
6	Eccentricity of web bearing stiffeners at supports: 	Eccentricity between a pair of stiffeners	$\Delta = \pm\, t_w/3$	$\Delta = \pm\, t_w/4$

NOTE Notations such as $\Delta = \pm\, d/100$ but $\lvert\Delta\rvert \geq 5$ mm mean that the *larger* of the two values is permitted.

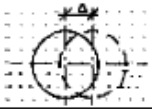
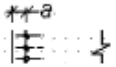
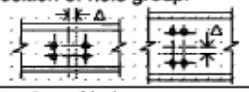
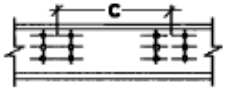
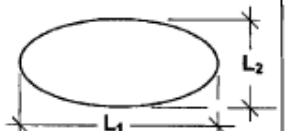
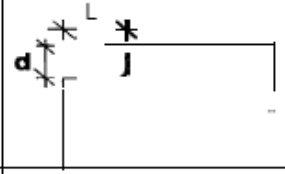
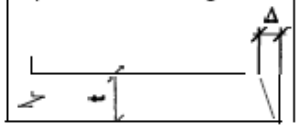
Posamezni elementi

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Length:  	Cut length measured on the centreline (or on the corner for an angle) : - general case: - ends ready for full contact bearing: NOTE Length *L* measured including welded end plates as applicable.	Δ = ± *(U5* 000 + 2) mm Δ = ± 1 mm	Δ=± *(U10* 000 + 2) mm Δ = ± 1 mm
2	Length, where sufficient compensation with next component is possible:	Cut length measured on centreline:	Δ = ± 50 mm	Δ = ± 50 mm
3	Straightness:  	Deviation Δ from rectangular axes of a fabricated or press braked section: NOTE For rolled or hot finished sections see the relevant product standard.	Δ = ± *U500* but |Δ| ≥ 5 mm	Δ = ± *U750* but |Δ| ≥ 3 mm
4	Camber or intended curvature on plan:  	Offset *f* at mid-length: NOTE Vertical camber should be measured with the member on its side.	Δ = ± *U500* but |Δ| ≥ 6 mm	Δ = ± *U1000* but |Δ| ≥ 4 mm
5	Surfaces finished for full contact bearing: 	Gap Δ between straight edge and surface: NOTE No surface rougtmess criterion is specified.	Δ = 0,5 mm high spots not be proud by more than 0,5 mm.	Δ = 0,25 mm high spots not be proud by more than 0,25 mm.
6	Squareness of ends:  	Squareness to longitudinal axis: - ends intended for full contact bearing: - ends not intended for full contact bearing:	Δ = ± *0/1* 000 Δ = ± D/100	Δ = ± *0/1* 000 Δ = ± D/300 but |Δ| ≤ 10 mm

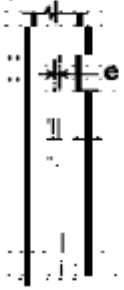
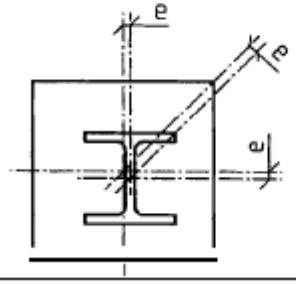
Posamezni elementi

Twist:  7	Overall deviation Δ in a piece of length *L*: NOTE 1 For box sections see Table 0.2.4. NOTE 2 For structural hollow sections see the relevant product standard.	$\Delta = \pm L / 700$ But 4 mm $\leq \lvert\Delta\rvert \leq$ 20 mm	$\Delta = \pm L / 1\,000$ but 3 mm $\leq \lvert\Delta\rvert \leq$ 15 mm
NOTE Notations such as $\Delta = \pm d/100$ but $\lvert\Delta\rvert \geq 5$ mm mean that the *larger* of the two values is permitted.			

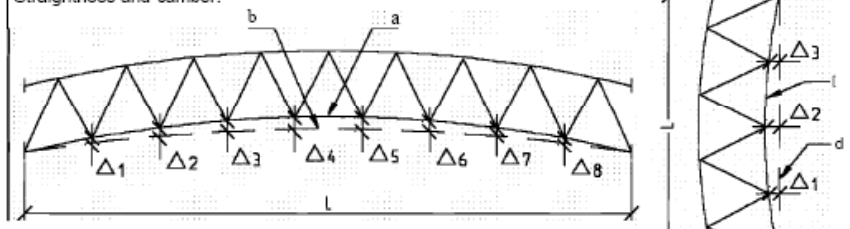
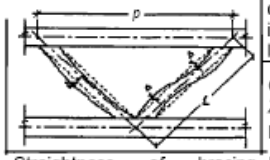
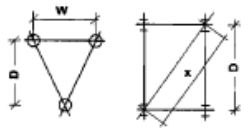
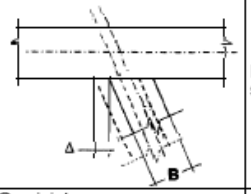
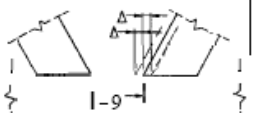
Luknje za vijake, izrezi in robovi

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Position of holes for fasteners: 	Deviation Δ of centreline of an individual hole from its intended position within a group of holes:	Δ = ± 2 mm	Δ = ± 1 mm
2	Position of holes for fasteners: 	Deviation Δ in distance a between an individual hole and a cut end:	- Δ = 0 + Δ ≤ 3 mm	- Δ = 0 + Δ ≤ 2 mm
3	**Position of hole group:** 	Deviation Δ of a hole group from its intended position:	Δ = ± 2 mm	Δ = ± 1 mm
4	Spacing of hole groups: 	Deviation Δ in spacing c between centres of hole groups: - general case - where a single piece is connected by two groups of fasteners:	Δ = ± 5 mm Δ = ± 2 mm	Δ = ± 2 mm Δ = ± 1 mm
5	Twist of a hole group: 	Twist Δ: - if h 1 000 mm - if h > 1 000 mm	Δ = ± 2 mm Δ = ± 4 mm	Δ = ± 1 mm Δ = ± 2 mm
6	Ovalisation of holes: 	$\Delta = L_1 - L_2$	Δ = ± 1 mm	Δ = ± 0,5 mm
7	Notches: 	Deviation Δ of notch depth and length: - depth d - length L	- Δ = 0 mm + Δ ≤ 3 mm - Δ = 0 mm + Δ ≤ 3 mm	- Δ = 0 mm + Δ ≤ 2 mm - Δ = 0 mm + Δ ≤ 2 mm
8	Squareness of cut edges: 	Deviation Δ of a cut edge from 90°	Δ = ± 0,1t	Δ = ± 0,05t

Vezne pločevine in ležiščne plošče stebrov

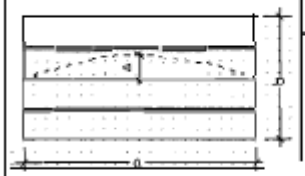
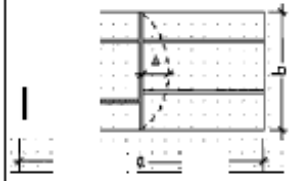
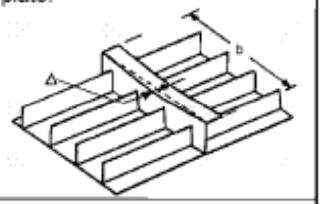
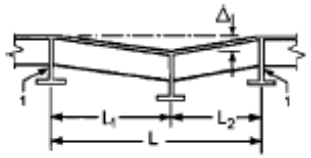
No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Column splice: 	Non-intended eccentricity e (about either axis):	5mm	3mm
2	Baseplate: 	Non-intended eccentricity e (in any direction):	5mm	3mm

Elementi paličja

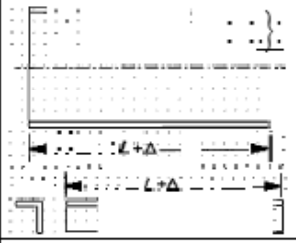
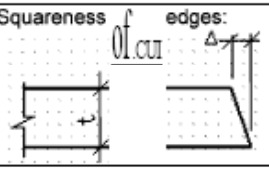
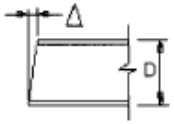
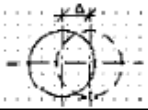
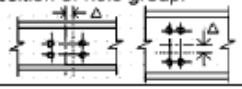
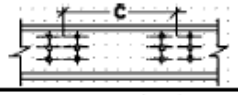
No	Criterion	Parameter	Permitted deviation Δ Class 1	Permitted deviation Δ Class 2
1	Straightness and camber:  NOTE Deviations measured after welding, with the component lying flat on its side. Key a actual camber *b* intended camber c actual line *d* intended line	Deviation at each panel point, relative to a straight line - or to the intended camber or curvature.	$\Delta = \pm L/500$ but $\lvert\Delta\rvert \geq 12$ mm	$\Delta = \pm U500$ but $\lvert\Delta\rvert \geq 6$ mm
2	Panel dimensions:  	Deviation of individual distances *p* between intersections of centre lines at panel points:	Δ = ± 5 mm	Δ = ± 3 mm
		Cumulative deviation Σp of panel point position:	Δ = ± 10 mm	Δ = ± 6 mm
3	Straightness of bracing cam onents:	Deviation of bracing strai htness:	$\Delta = \pm L/500$ but Δ ≥ 6 mm	$\Delta = \pm U1\,000$ but Δ ≥ 3 mm
4	Cross-sectional dimensions:  	Deviation of distances *D*, W and X if: s ≤ 300 mm: 300 < s < 1 000 mm s ≥ 1 000 mm NOTE *s* = 0, W or X as a ro riate.	Δ = ± 3 mm Δ = ± 5 mm Δ = ± 10 mm	Δ = ± 2 mm Δ = ± 4 mm Δ = ± 6 mm
5	Intersecting joints:  	Eccentricity (relative to specified eccentricity):	Δ = ± (8/20 + 5) mm	Δ = ± (8/40 + 3mm)
6	Gap joints:  	Gap g between bracing components: g ≥ (t1 + t2) where t1 and t2 are the wall thicknesses of braces	$\lvert\Delta\rvert$ = t1 + t2 but $\lvert\Delta\rvert \leq 5$ mm	$\lvert\Delta\rvert$ = t1 + t2 but $\lvert\Delta\rvert \leq 3$ mm

NOTE Notation such as $\Delta = \pm U500$ but $\lvert\Delta\rvert \geq 6$ mm means that the *larger* of the two values is permitted.
Notation such as $\Delta = \pm$ t1 + t2 but $\lvert\Delta\rvert \leq 5$ mm means that the *smaller* of the two values is required.

Ojačane plošče

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
1	Straightness of stiffeners: Longitudinal stiffeners in longitudinally stiffened plating	Deviation Δ perpendicular to the plate:	Δ = ± a/400	Δ = ± a /750 but |Δ| ≥ 2 mm
2	 Key 1 plate	Deviation Δ parallel to the plate:	Δ = ± *b* 1400	Δ = ± *b* 1500
3	Straightness of stiffeners: Transverse stiffeners in transversely and longitudinally stiffened plating:	Deviation Δ perpendicular to the plate:	Smaller of: Δ = ± a / 400 or Δ = ± *b* / 400	Smaller of: Δ = ± a / 500 or Δ = ± *b* / 750 but |Δ| ≥ 2 mm
4		Deviation Δ parallel to the plate: 	Δ = ± *b* / 400	Δ = ± *b* /500
5	Levels of cross frames in stiffened plating: **Key** **1 cross frame**	Level relative to adjacent cross frames: 	Δ = ± *L* / 400	Δ = ± *L* / 500 but |Δ| ≥ 2 mm

Stolpi in jambori

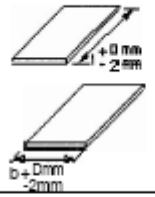
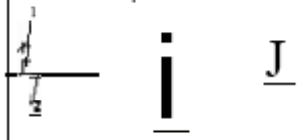
No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Length of components: 	Cut length measured on the centreline (or on the corner for an angle):	Δ = ± 1 mm	Δ = ± 1 mm
2	Length or spacing:	If minimum dimensions are specified:	- Δ = 0 mm + Δ ≤ 1 mm	- Δ = 0 mm + Δ ≤ 1 mm
3	Back marks for angles:	Distance from heel of angle to centre of hole:	Δ = ± 0,5 mm	Δ = ± 0,5 mm
4	Squareness of cut edges: 	Deviation Δ of a cut edge from 90°:	Δ = ± *0,05t*	Δ = ± *0,05t*
5	Squareness of ends: 	Squareness to longitudinal axis: - ends intended for full contact bearing: - ends not intended for full contact bearing:	Δ = ± *0/1* 000 Δ = ± *0/300*	Δ = ± *0/1* 000 Δ = ± *0/300*
6	Surfaces intended for full contact in bearing:	Flatness:	1 in 1 500	1 in 1 500
7	Position of holes for fasteners: 	Deviation Δ of centreline of an individual hole from its intended position within a group of holes:	Δ = ± 2 mm	Δ = ± 1 mm
8	Position of hole group: 	Deviation Δ of a hole group from its intended position:	Δ = ± 2 mm	Δ = ± 1 mm
9	Spacing of hole groups: 	Deviation Δ in spacing *c* between centres of hole groups:	Δ = ± 1 mm	Δ = ± 0,5 mm

NOTE Notations such as Δ = ± 0,10 % but |Δ| ≥ 5 mm mean that the *larger* of the two values is permitted.

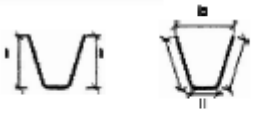
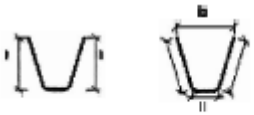
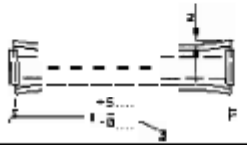
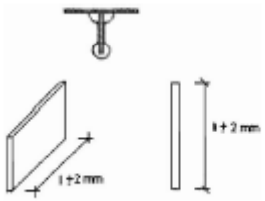
Hladno oblikovane profilirane pločevine

No	Criterion	Parameter	Permitted deviation Δ
1	Vertical curvature of the sheet 	Deviation Δ from the intended shape over the sheet width *b*	$\Delta \leq \pm b/100$
2	Shape:	Deviation Δ in intended angle between adjacent elements of the cross-section	$\Delta \leq \pm 3^{\circ}$

Voziščna konstrukcija

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
1	Length / depth / width of plate for deck: 	Overall dimensions *l, b* after cutting and straightening by rolling inclusive of provisions for shrinkage and after application of the final weld preparation	No requirement	$0 \geq \Delta \geq -2$ mm (note negative sign)
2	Flatness of plate for deck: 	After application of the final weld preparation Key 1 gauge length 2 000 mm 2 plate 3 fit up gap Δ	Class S according to EN 10029	$\Delta = \pm 2$ mm

Voziščna konstrukcija

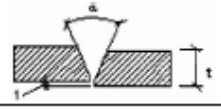
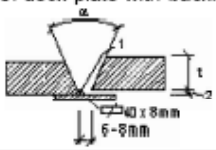
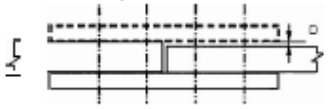
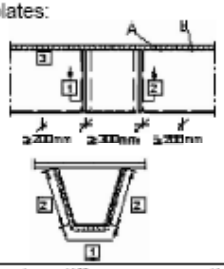
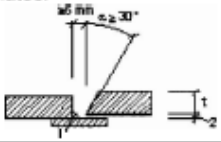
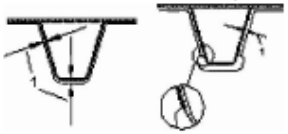
3	Formed profile for passing throuah crossbeams: with cope holes -1 	Height *h*, width a and *b* Note for a or *b*: If the tolerances are exceeded, the cut outs in the crossbeams are to be adapted to meet maximum gap width measured at a distance of at least 500 mm from the end	$\Delta h = \pm 3$ mm $\Delta a = \pm 2$ mm $\Delta b = \pm 3$ mm	+ 2 mm ≥ Δ(*h* or a or *b*) ≥ -1 mm
			$\Delta h = \pm 2$ mm $\Delta a = \pm 1$ mm $\Delta b = \pm 2{,}5$ mm	$\Delta = \pm 0{,}5$ mm
4	Straightness of formed profile: 	Key 1 max. gap Δ_1 2 max widening Δ_2 3 for stiffener splices with splice plates Δ_3 radius r = r ± Δ_r rotation Δ_φ measured on a plane surface over 4 m length parallelism Δ_p	$\Delta_1 = \pm$ *U500* $\Delta_2 = 5$ mm 5 mm ≥ Δ_3 ≥ 0 $\Delta_r = \pm 0{,}20$ r $\Delta_\varphi = \pm 1°$ $\Delta_p = \pm 2$ mm	$\Delta_1 = \pm$ *U1000* $\Delta_2 = 1$ mm 5 mm ≥ Δ_3 ≥ 0 $\Delta_r = \pm 2$ mm $\Delta_\varphi = \pm 1°$ $\Delta_p = \pm 2$ mm
5	Length / width of flat profile for welding on both sides: 	Overall dimensions l, h	$\Delta = \pm 2$ mm	$\Delta = \pm 2$ mm
6	Straightness of flat profile for welding on both sides: 	Key 1 max. gap Δ_1 Length Δ_l	$\Delta_1 = \pm$ L/1 000 5 mm ≥ Δ_l ≥ 0	$\Delta_1 = \pm$ L/1 000 5 mm ≥ Δ_l ≥ 0

FUNKCIONALNE TOLERANCE PRI IZVEDBI

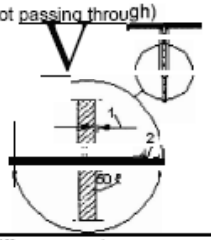
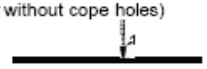
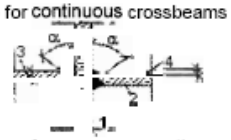
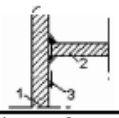
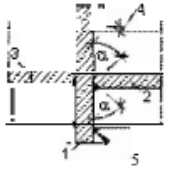
Mostovi

No	Criterion	Parameter	Permitted deviation Δ
1	Span length:	Deviation ⊿ of distance L between two consecutive supports measured on top of upper flange:	$\Delta = \pm (30 + L / 10\,000)$
2	Bridge elevation or plan profile:	Deviation Δ from nominal profile taking into account as-built levels of supports: $L \leq 20$ m: $L > 20$ m:	 $\Delta = \pm (L / 1\,000)$ $\Delta = \pm (L / 2\,000 + 10\ \text{mm}) \leq 35\ \text{mm}$

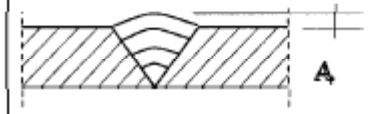
Voziščna konstrukcija

No	Criterion	Parameter	Permitted deviation Δ
	Splices of deck plate without backing strip or splice of lower flange or web of crossbeam: 	**Key** 1 misalignment Δ before welding	Δ = ± 2 mm
2	Splices of deck plate with backing strip: 	**Key** 1 tack weld 2 misalignment Δ before welding Fit up gaps Δ_g between plate and backing strip after welding	Δ = ± 2 mm $\lvert\Delta_g\rvert$ = 1 mm
3	Stiffener-deck plate connection: 	Root penetration Fit up gap	Δ = ± 2 mm
4	Stiffener-stiffener connection with splice plates: 	Misalignment Δ between stiffener and splice plate before welding	Δ = ± 2 mm
5	Stiffener to stiffener connection with splice plates: 	**Key** 1 continuous tack weld 2 misalignment Δ before welding	Δ = ± 2 mm
6	Stiffener-crossbeam connec-tion with stiffeners passing through the crossbeam with or without cope holes 	**Key** 1 max. gap Δ_1 minimum throat thickness a: for gap width s ≤ 2 mm: a = a_{nom} according to analysis for gap widths s > 2 mm: a = a_{nom} + (s-2) But a ≥ 4 mm	Δ_1 = 3 mm

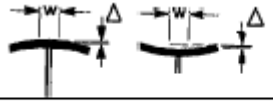
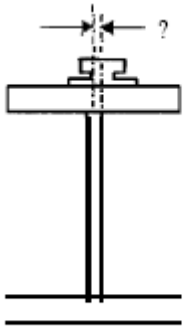
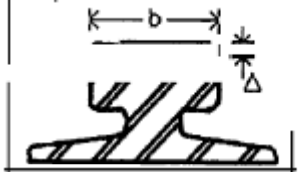
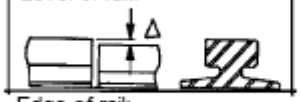
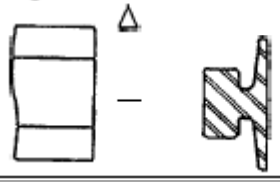
Voziščna konstrukcija

1	Stiffener-crossbeam connection with stiffeners fitted between crossbeams (not passing through) 	**Key** 1 max. gap Δ_1 2 misalignment Δ_2 before welding	$\Delta_1 = 2$ mm $\Delta_2 = \pm 2$ mm
2	Stiffener-crossbeam connection with flats passing through 	**Key** 1 max. gap Δ	$\Delta = 1$ mm
3	Connection of web of crossbeam to deck plate (with or without cope holes) 	**Key** 1 max. gap Δ	$\Delta = 1$ mm
4	Connection of webs of crossbeams to web of main girder a) for continuous crossbeams  b) for non continuous crossbeams 	**Key** 1 web of main girder 2 web of crossbeam 3 in fig. a) $t_{w,crossb}$ 3 in fig. b) gap Δ_b 4 misalignment Δ_a before welding	a) $\Delta_a = \pm 0{,}5\ t_{w,crossb}$ b) $\Delta_b = \pm 2$ mm
5	Connection of crossbeam flanges to web of main girder 	Key 1 web of main girder 2 web of crossbeam 3 $t_{w,crossb}$ 4 misalignment Δ before welding	$\Delta = \pm 0{,}5\ t_{w,crossb}$

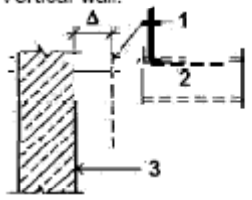
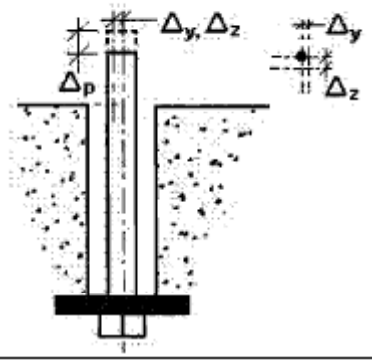
Voziščna konstrukcija

No	Criterion	Parameter	Permitted deviation Δ
3	Fit-up of orthotropic decks of plate thickness t after erection:  **Key** GL gauge length Pr deviation V_e step D_r slope	Difference in level at junction: $t \leq 10$ mm: 10mm $< t \leq 70$ mm $t > 70$ mm: Slope at junction: $t \leq 10$ mm: 10 mm $< t \leq 70$ mm: $t > 70$ mm: Flatness in all directions: $t \leq 10$ mm: $t > 70$ mm: General case: Longitudinally: NOTE Values for Pr may be interpolated for 10 mm $< t \leq 70$ mm.	V_e =2 mm V_e =5 mm V_e =8 mm Or= 8 % Or = 9 % Or = 10 % Pr = 3 mm over gauge length 1 m Pr = 4 mm over gauge length 3 m Pr = 5 mm over gauge length 5 m Pr = 5 mm over gauge length 3 m Pr = 18 mm over gauge length 3 m
4	Orthotropic deck welding:  	Protrusion A_r of weld above surrounding surface:	A_r = - 0 mm / + 1 mm

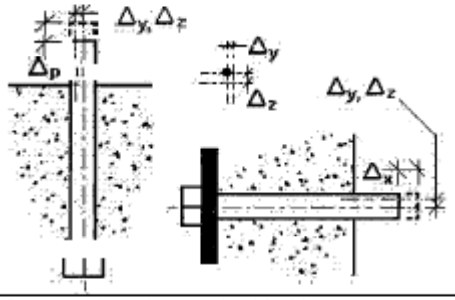
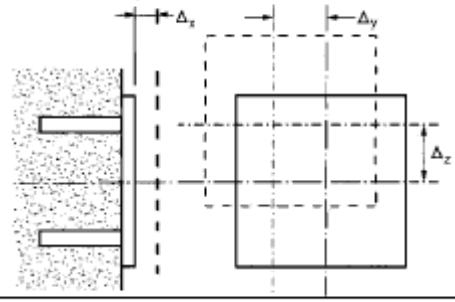
Nosilci in tiri žerjavov

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Flatness of top flange of a crane beam: 	Out of flatness over a central width w equal to the rail width plus 10 mm either side of rail in nominal position:	Δ = ± 1 mm	Δ = ± 1 mm
2	Eccentricity of rail relative to web: 	For t_w 10 mm For t_w > 10 mm	±5mm ± 0,5 t_w	±5mm ± 0,5 t_w
3	Slope of rail: 	Slope of top surface of cross-section:	Δ = ± *b/100*	Δ = ± *b /100*
4	Level of rail: 	Step in top of rail at joint:	Δ = ± 1 mm	Δ = ± 0,5 mm
5	Edge of rail: 	Step in edge of rail at joint:	Δ = ± 1 mm	Δ = ± 0,5

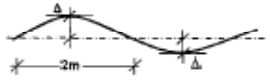
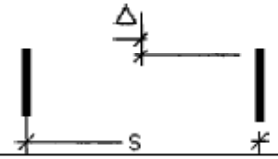
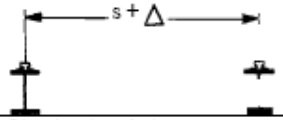
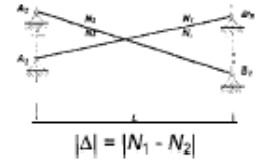
Betonski temelji in podpore

No	Criterion	Parameter	Permitted deviation Δ
1	Foundation level: 	Deviation Δ from specified level:	- 15 mm ≤ Δ ≤ + 5 mm
2	Vertical wall:  Key 1 specified position 2 steel component 3 supportinQ wall	Deviation Δ from specified position at support point for steel component:	Δ = ± 25 mm
3	Pre-set foundation bolt where prepared for adjustment: 	Deviation Δ from specified location and protrusion: - location at tip: - vertical protrusion Δ_p: NOTE The permitted deviation for location of the centre of a bolt group is 6 mm.	Δ_y, Δ_z = ± 10 mm - 5 mm ≤ Δ_p ≤ + 25 mm

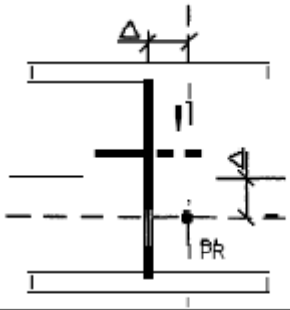
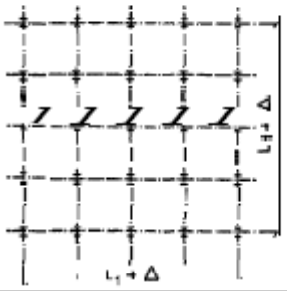
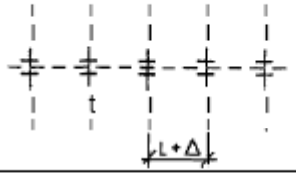
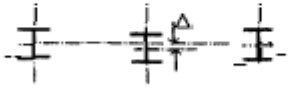
Betonski temelji in podpore

4	Pre-set foundation bolt where not prepared for adjustment: 	Deviation Δ from specified location, level and protrusion: - location or level at tip: - vertical protrusion Δ_p: - horizontal protrusion Δ_x: NOTE The permitted deviation for location also applies to the centre of a bolt group.	= ± 3 mm - 5 mm ≤ Δ_p ≤ 45 mm - 5 mm ≤ Δ_x ≤ 45 mm
5	Steel anchor plate embedded in concrete: 	Deviations Δx, Δy, Δz from the specified location and level:	Δx, Δy, Δz = ± 10 mm

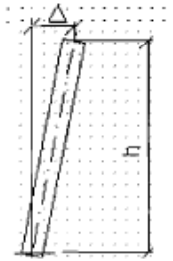
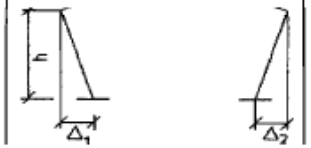
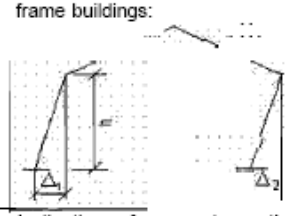
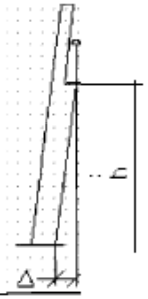
Tračnice žerjavov

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
1	Location of rail in plan:	Relative to the intended location:	$\Delta = \pm 10$ mm	$\Delta = \pm 5$ mm
2	Local alignment of rail: 	Alignment over 2 m gauge length:	$\Delta = \pm 1{,}5$ mm	$\Delta = \pm 1$ mm
3	Level of rail	Relative to the intended level:	$\Delta = \pm 15$ mm	$\Delta = \pm 10$ mm
4	Level of rail	Level over span L of crane beam:	$\Delta = \pm L/500$ but $\lvert\Delta\rvert \geq 10$ mm	$\Delta = \pm L/1\,000$ but $\lvert\Delta\rvert \geq 10$ mm
5	Level of rail: 	Variation over 2 m gauge length:	$\Delta = \pm 3$ mm	$\Delta = \pm 2$ mm
6	Relative levels of rails on the two sides of a runway: 	Deviation of level: for $s \leq 10$ m for $s > 10$ m	$\Delta = \pm 20$ mm $\Delta = \pm s/500$	$\Delta = \pm 10$ mm $\Delta = \pm s/1\,000$
7	Spacing s between centres of crane rails: 	Deviation of spacing: for $s \leq 16$ m for $s > 16$ m	$\Delta = \pm 10$ mm $\Delta = \pm 10 + [s - 16]/3$ mm	$\Delta = \pm 5$ mm $\Delta = \pm 5 + [s - 16]/4$ mm
8	Structural end stops:	Relative location of the stops at the same end, measured in the direction of travel on the runway:	$\Delta = \pm s/1\,000$ but $\lvert\Delta\rvert \leq 10$ mm	$\Delta = \pm s/1\,000$ but $\lvert\Delta\rvert \leq 10$ mm
9	Inclination of opposite rails  $\lvert\Delta\rvert = \lvert N_1 - N_2\rvert$ Key N_1 inclination A_1 B_1 N_2 inclination A_2 B_2 L distance of adjacent supports	Offset	$\Delta = L/500$	$\Delta = L/1\,000$

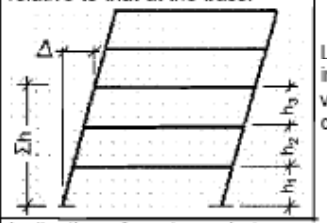
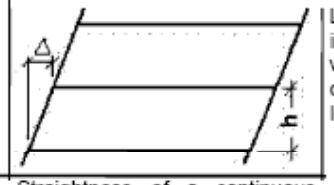
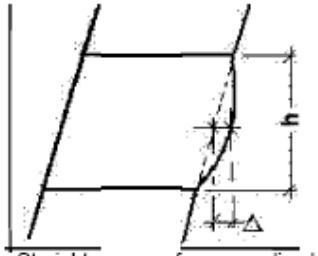
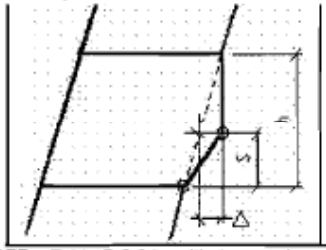
Pozicije stebrov

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
1	location: 	location in plan of the centre of the column at the level of its base, relative to the position point of reference (PR)	Δ = ± 10 mm	Δ = ± 5 mm
2	Overall length of a building: 	Distance between end columns in each line, at base level: $L \leq 30$ m 30 m < L < 250 m $L \geq 250$ m	Δ = ± 20 mm Δ = ± $0{,}25(L+50)$ mm Δ = ± $0{,}1(L+500)$ mm [L in metres]	Δ = ± 16 mm Δ = ± $0{,}2(L+50)$ mm Δ = ± $0{,}1(L+350)$ mm [L in metres]
3	Column spacing: 	Distance between centres of adjacent columns at base level: $L \leq 5$ m $L > 5m$	Δ = ± 10 mm Δ = ± $0{,}2(L+45)$ mm [L in metres]	Δ = ± 7 mm Δ = ± $0{,}2(L+30)$ mm [L in metres]
4	Column alignment generally: 	location of the centre of the column at base level, relative to the established column line (ECI)	Δ = ± 10 mm	Δ = ± 7 mm
5	Perimeter column alignment: 	location of the outer face of a perimeter column at base level, relative to the line joining the faces of the adjacent columns	Δ = ± 10 mm	Δ = ± 7 mm

Stebri za enoetažne objekte

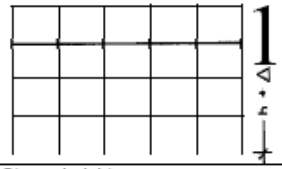
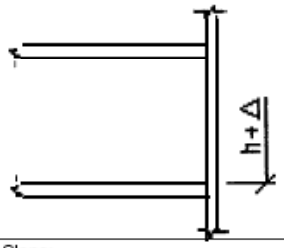
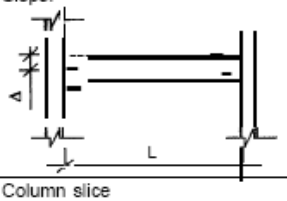
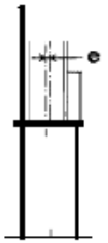
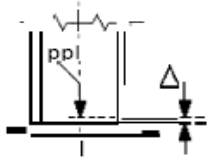
No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Inclination of single-storey columns generally: 	Overall inclination	$\Delta = \pm h/300$	$\Delta = \pm h/500$
2	Inclination of individual columns in single storey portal frame buildings: 	Inclination Δ of each column: $\Delta = \Delta_1$ or Δ_2	$\Delta = \pm h/150$	$\Delta = \pm h/300$
3	Inclination of single storey portal frame buildings: 	Mean inclination Δ of all the columns in the same frame: [For two columns: $\Delta = (\Delta_1 + \Delta_2)/2$]	$\Delta = \pm h/500$	$\Delta = \pm h/500$
4	Inclination of any column that supports a crane gantry: 	Inclination from floor level to bearing of crane beam:	$\Delta = \pm 25$ mm	$\Delta = \pm 15$ mm

Stebri za večetažne objekte

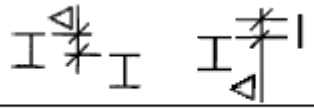
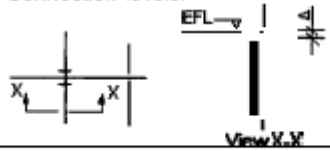
No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Location at each storey level, relative to that at the base: 	Location of the column in plan, relative to a vertical line through its centre at base level	$\lvert\Delta\rvert =$)	$\lvert\Delta\rvert = \Sigma h / (500\sqrt{n})$
2	Inclination of a column, between adjacent storey levels: 	Location of the column in plan, relative to a vertical line through its centre at the next lower level	$\Delta = \pm h/500$	$\Delta = \pm h/1\ 000$
3	Straightness of a continuous column between adjacent storey levels: 	Location of the column in plan, relative to a straight line between position points at adjacent storey levels	$\Delta = \pm h/500$	$\Delta = \pm h/1\ 000$
4	Straightness of a spliced column, between adjacent storey levels: 	Location of the column in plan at the splice, relative to a straight line between position points at adjacent storey levels	$\Delta = \pm s/500$ with $h/2$	$\Delta = \pm s/1\ 000$ with $h/2$

NOTE Table D.2.24 multi-storey columns applies to that are continuous over more than one storey.
Table D.2.23 singie storey columns applies to storey-height columns in multi-storey buildings.

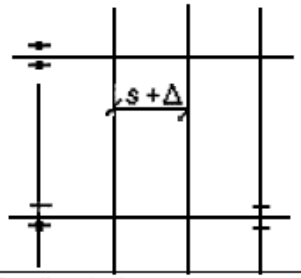
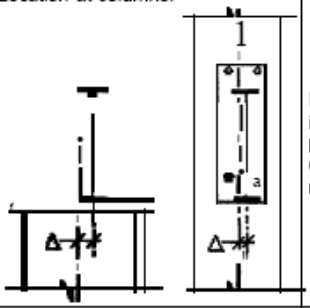
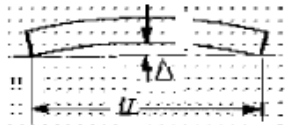
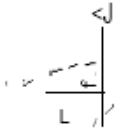
Stavbe

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
	Height: 	Overall height, relative to the base level: $h \le 20$ m 20 m < h < 100 m $h \ge 100$ m	Δ = ± 20 mm Δ = ± $0{,}5(h+20)$ mm Δ = ± $0{,}2(h+200)$ mm [h in metres]	Δ = ± 10 mm Δ = ± $0{,}25(h+20)$ mm Δ = ± $0{,}1\ (h+200)$ mm [h in metres]
2	Storey height: 	Height relative to the adjacent levels	Δ = ± 10 mm	Δ = ± 5 mm
3	Slope: 	Height relative to the other end of a beam	Δ = ± $L/500$ but |Δ| 10 mm	Δ = ± $L/1000$ but |Δ| 5 mm
4	Column slice 	Non-intended eccentricity e (about either axis):	5mm	3mm
5	Column base: 	Level of bottom of column shaft, relative to specified level of its position point (PP)	Δ = ± 5 mm	Δ = ± 5 mm

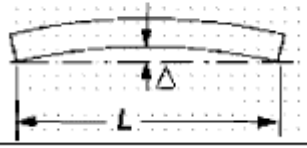
Stavbe

6	Relative levels: 	Levels of adjacent beams, measured at corresponding ends	$\Delta = \pm$ 10 mm	$\Delta = \pm$ 5 mm
7	Connection levels: 	Level of the beam at a beam-to-column connection, measured relative to the established floor level (EFL)	$\Delta = \pm$ 10 mm	$\Delta = \pm$ 5 mm
NOTE 1 The levels of beams should be measured relative to the established floor level [the best-fit to the specified floor levels, adjusted for tolerances in the column lengths]. NOTE 2 Notations such as $\Delta = \pm L/500$ but $\lvert\Delta\rvert \leq 5$ mm mean that the *smaller* of the two values is required.				

Nosilci v stavbah

No	Criterion	Parameter	Permitted deviation Δ	
			Class 1	Class 2
1	Spacing: 	Deviation Δ from intended distance between adjacent erected beams, measured at each end	Δ = ± 10 mm	Δ = ± 5 mm
2	Location at columns: 	Deviation Δ from intended location of a beam-to-column connection, measured relative to the column	Δ = ± 5 mm	Δ = ± 3 mm
3	Straightness in plan: 	Deviation **Δ** from straightness of an erected beam or cantilever of length *L*	Δ = ± *L* /500	Δ = ± *L* /1 000
4	Camber: 	Deviation Δ at mid span from intended camber *f* of an erected beam or lattice component of length L:	Δ = ± *L* / 300	Δ = ± *L* / 500
5	Pre-set of cantilevered part: 	Deviation Δ from intended pre-set at end of an erected cantilever of length L:	Δ = ± *L* /200	Δ = ± *L* / 300

Pločevina za streho, računana kot membrana

No	Criterion	Parameter	Permitted deviation Δ
1	Deviation of fixing (from the intended line of fixing: 1) 	Flange width of the purlin: b	$\Delta = \pm b / 10$ $\lvert\Delta\rvert \geq 5$ mm
2	Straightness of supporting purlin (in plane of roof sheeting): 	Span of the purlin: L	$\Delta = \pm L / 300$

Profilirana pločevina

No	Criterion	Parameter	Permitted deviation Δ
1	Overall width of profiled sheeting:	Overall width b of profiled steel sheeting measured over a distance of 10 m	$\|\Delta\| \leq 200$ mm