



MONTEFERRO

**PRODUCT
&
SERVICES**

Simply Up

MONTEFERRO is the complete market source for elevator guide rail solutions, in accordance with international and customer specific standards. MONTEFERRO offers the widest range of cold drawn and machined guide rails, guide rails for high speed application and a complete line of components and accessories to form the integrated hoistway systems. Guide rails are vital for proper elevator ride comfort and safety. Their development represents a specific and unique product whose manufacturing technology and process results from years of study, research and industry experience. The high quality and superior performance of MONTEFERRO products are a testament to the company's continuous pursuit of manufacturing excellence.

MONTEFERRO introduced cold drawn processing into the guide rail market at the end of the '40s. Through continuous improvements and optimization in co-operation with the rolling mill, available on the market today is a complete range of cold drawn guide rails from 3Kg/mt to 14 Kg/mt for application below two meters per second (400 feet per minute) and for average load capacity.

Specifications

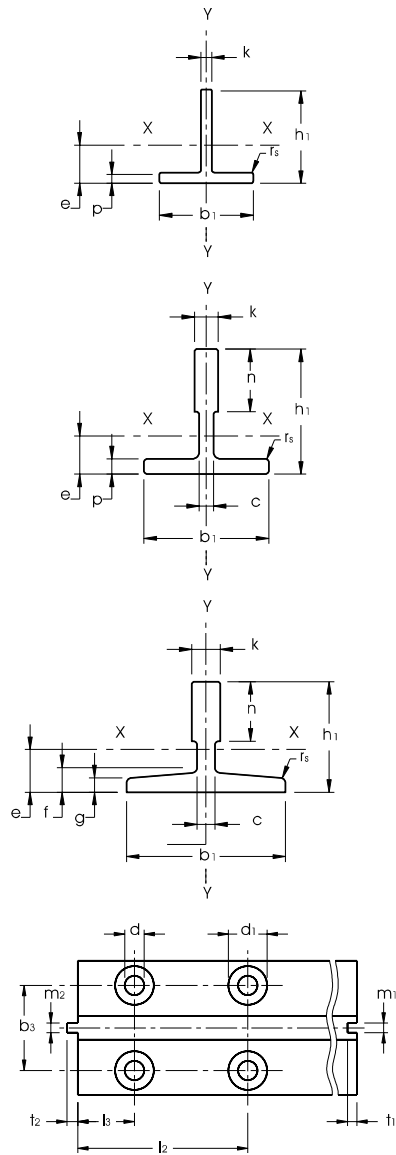
**Standard
Cold Drawn
Guide Rails**



Standard Cold Drawn Guide Rails

Reference Norm: ISO 7465: 1997(E) – Raw material: E 235 B (ISO 630: 1995), corresponding to Fe 360 B. Guide rail length: 5,000 mm ± 2mm.
Different length according to customer's requirements. Different guide rail sections and specifications: according to definition with customers.

DIMENSIONS



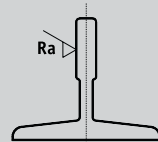
Monteferro Code	ISO Code	b ₁ mm	h ₁ mm	k mm	n mm	c mm	p mm	g mm	f mm	r _s mm	m ₁ mm	m ₂ mm	t ₁ mm	t ₂ mm	d mm	d ₁ mm	b ₃	l ₂	l ₃	
Tolerances		±0.5	±0.2	±0.15			±0.5				+0.06/-0	+0/-0.06	±0.1	±0.1			±0.2	±0.2	±0.2	
RT 40	—	40	40	5			5			1	2	1.95	2.5	2	9		23	85	15	
RT 45	T 45/A	45	45	5			5			1					9		25	65	15	
RT 45 M/F	—	45	45	5			5			1	2	1.95	2.5	2	9		25	65	15	
RT 50	T 50/A	50	50	5			5			1					9		30	75	25	
RT 50 M/F	—	50	50	5			5			1	2	1.95	2.5	2	9		30	75	25	
Tolerances		±1.5	±0.1	+0.1/0	+3/0		±0.75				+0.06/-0	+0/-0.06	±0.1	±0.1			±0.2	±0.2	±0.2	
RT 70	T 70-2/A	70	70	8			8			1.5	3	2.95	3.5	3	13		42	105	25	
RT 80	—	80	80	9			9			1.5	3	2.95	3.5	3	13		42	105	25	
Tolerances		±1.5	±0.1	+0.1/0	+3/0		±0.75				+0.06/-0	+0/-0.06	±0.1	±0.1			±0.2	±0.2	±0.2	
RF 50	—	50	50	9	35	7.5	6.5			1	3	2.95	3.5	3	9		30	75	25	
RF 70	T 70-1/A	70	65	9	34	6	7			1.5	3	2.95	3.5	3	13		42	105	25	
RF 70.9	—	70	70	9	35	7.9	8.5			1.5	3	2.95	3.5	3	13		43	90	30	
RF 75	T 75-3/A	75	62	10	30	8	7.5			1.5	3	2.95	3.5	3	13		43	90	30	
Tolerances		±1.5	±0.1	+0.1/0	+3/0			±0.75	±0.75		+0.06/-0	+0/-0.06	±0.1	±0.1		*	±0.2	±0.2	±0.2	
RF 65	—	65	54	7.9	20	5		4	6	1.5	2	1.95	2.5	2	10		24*	40	65	15
RF 82	T 82/A	82.5	68.25	9	25.4	7.5		6	8.25	3	3	2.95	3.5	3	13		26*	50.8	81	27
RF 89	T 89/A	89	62	15.88	33.4	10		7.9	11.1	3	6.4	6.37	7.14	6.35	13		26*	57.2	114.3	38.1
RF 90	T 90/A	90	75	16	42	10		8	10	4	6.4	6.37	7.14	6.35	13		26*	57.2	114.3	38.1

*on demand

KEY FACTORS

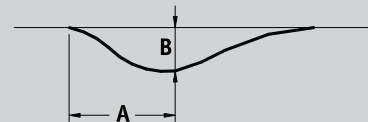
Blade finish

longitudinal 1.6 Ra ≤ 63μ
transverse 1.6 Ra ≤ 126μ



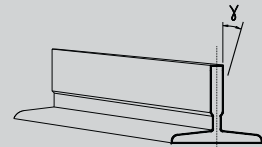
Straightness

B/A = 0.001
B_{max} (5m) = 2 mm
B_{1m} = 0.5 mm



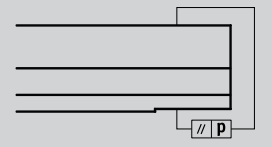
Twisting

γ = 40°/m



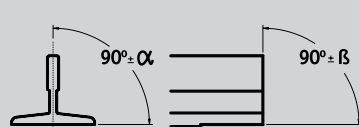
Parallelism

p = 0.15 mm



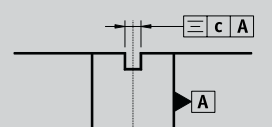
Perpendicularity

α = 10'
β = 15'



Tongue and groove centering

c = 0.1 mm



TECHNICAL CHARACTERISTICS

Monteferro Code	ISO Code	s cm ²	q ₁ kg/m	e cm	i _{xx} cm ⁴	w _{xx} cm ³	i _{yy} cm ⁴	I _{yy} cm ⁴	w _{yy} cm ³	i _{yy} cm
RT 40	—	3.4	2.95	1.26	5.35	1.95	1.25	2.17	1.08	0.8
RT 45	T45/A	4.25	3.34	1.31	8.08	2.53	1.38	3.84	1.71	0.95
RT 50	T50/A	4.75	3.73	1.43	11.24	3.15	1.54	5.25	2.1	1.05
RT 70	T70-2/A	10.52	8.26	2.02	47.43	9.63	2.12	23.13	6.61	1.48
RT 80	—	13.56	10.65	2.32	80.2	14.21	2.44	38.83	9.7	1.69
RF 50	—	7.07	5.55	1.70	17.36	5.26	1.57	7.02	2.81	0.99
RF 70	T70-1/A	9.51	7.47	2.04	41.3	9.24	2.09	18.65	5.35	1.40
RF 70.9	—	11.25	8.83	2.11	52.81	10.79	2.16	24.62	7.03	1.48
RF 75	T75-3/A	10.99	8.63	1.86	40.35	9.29	1.92	26.49	7.06	1.55
RF 65	—	6.24	4.9	1.71	20.09	5.44	1.79	10.92	3.36	1.32
RF 82	T82/A	10.9	8.55	1.98	49.4	10.2	2.13	30.5	7.4	1.67
RF 89	T89/A	15.7	12.3	2.02	59.52	14.25	1.95	52.4	11.8	1.83
RF 90	T90/A	17.25	13.55	2.61	102	20.87	2.43	52.6	11.8	1.75

MONTEFERRO machined guide rail product range includes rails from 8.27 lbs/ft to 30.91 lbs/ft for usage in high load, high frequency, high speed and special applications. MONTEFERRO factories work towards a common standard, providing an enhanced riding surface.

Specifications

**Standard
Machined
Guide Rails**



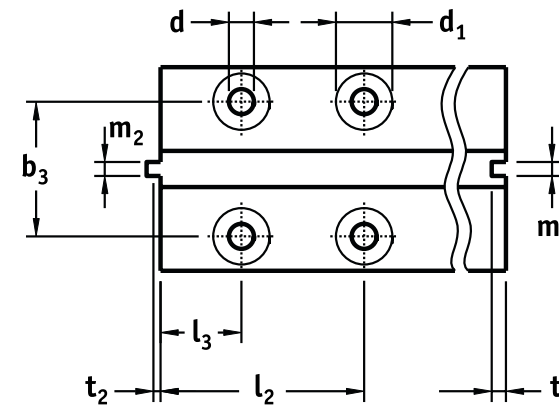
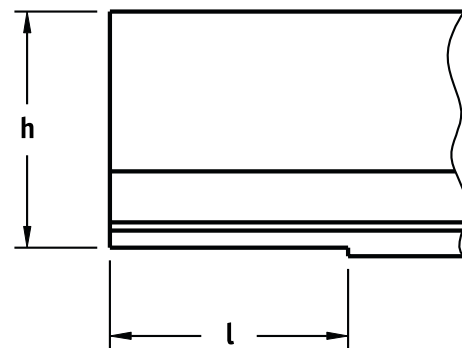
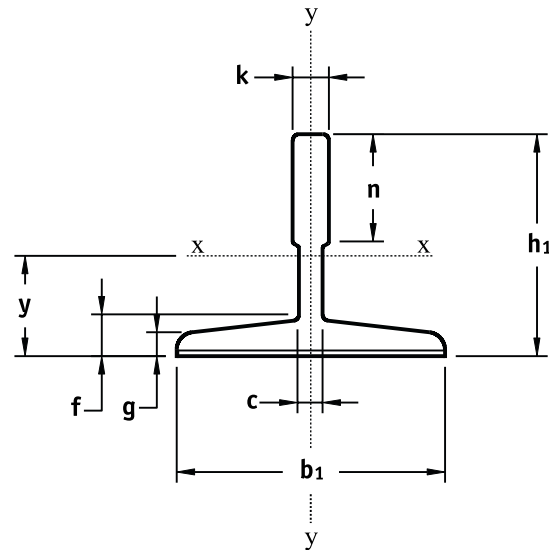
Standard Machined Guide Rails

Monteferro's Standard guide rails are manufactured in standard lengths of 7', 8', 9' and 16'. T70 and T89 rails are also available in 10' lengths. Metric lengths of 5m and 2.5m as well as custom machined and saw cut lengths are also available.

DIMENSIONS

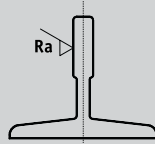
All dimensions in inches unless otherwise noted.

Monteferro Code	ISO Code	q ₁ lb/ft	b ₁	h ₁	h	k	n	c	g	f	m ₁	m ₂	t ₁	t ₂	d	d ₁	l	b ₃	l ₂	l ₃
Tolerances			+/- 0.06	+/- 0.03	+/- 0.004	+0.004, -0					+0.0025, -0	+0, -0.0025	+/- 0.004	+/- 0.004				+/- 0.008	+/- 0.008	+/- 0.008
T70/B	—	6.25	2.75	1.978	1.937	0.625	1	0.375	0.313	0.4375	0.252	0.251	0.281	0.25	0.5625	N/A	6.14	1.813	4.50	1.50
T89/B	T89/B	8.27	3.50	2.44	2.402	0.625	1.3125	0.375	0.313	0.4375	0.252	0.251	0.281	0.25	0.5625	1.024	6.14	2.250	4.50	1.50
T114/B	—	11.12	4.50	3.50	3.465	0.625	1.5	0.375	0.313	0.4375	0.252	0.251	0.281	0.25	0.6875	1.299	6.14	2.625	4.50	1.50
T127-1/B	T127-1/B	11.94	5.00	3.50	3.465	0.625	1.75	0.375	0.313	0.4375	0.252	0.251	0.281	0.25	0.6875	1.299	6.14	3.125	4.50	1.50
T127-2/B	T127-2/B	15.11	5.00	3.50	3.465	0.625	2	0.375	0.500	0.625	0.252	0.251	0.281	0.25	0.6875	1.299	6.14	3.125	4.50	1.50
T140-1/B	T140-1/B	18.55	5.50	4.25	4.213	0.748	2	0.5	0.500	0.625	0.252	0.251	0.281	0.25	0.8125	1.575	7.6	3.625	6.00	1.25
T140-2/B	T140-2/B	22.79	5.50	4.02	3.976	1.125	2	0.6875	0.563	0.6875	0.252	0.251	0.281	0.25	0.8125	1.575	7.6	3.625	6.00	1.25
T140-3/B	T140-3/B	30.91	5.50	5.00	4.961	1.250	2.25	0.75	0.688	1.000	0.252	0.251	0.281	0.25	0.8125	1.575	7.6	3.625	6.00	1.25

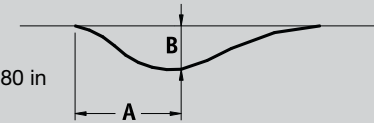


TOLERANCES

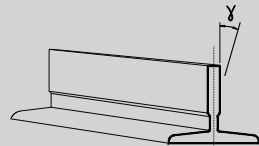
Blade finish
longitudinal 1.6 Ra ≤ 63μ in
transverse 1.6 Ra ≤ 126μ in



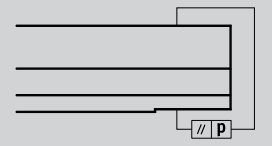
Straightness
B/A = ± 0.001 in
B(@A=MID PT) = ± 0.080 in



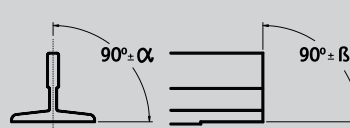
Twisting
γ = 9.1°/ft



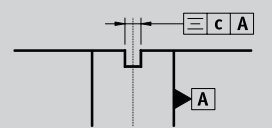
Parallelism
p = 0.004 in



Perpendicularity
α = 5'
β = 15'



Tongue and groove centering
c = 0.004 in



SECTIONAL PROPERTIES

Monteferro Code	ISO Code	a in ²	q ₁ lb/ft	y in	i _{xx} in ⁴	z _x in ³	r _x in	i _{yy} in ⁴	z _y in ³	r _y in
T70/B	—	1.79	6.25	0.67	0.66	0.52	0.60	0.62	0.46	0.59
T89/B	T89/B	2.43	8.27	0.80	1.43	0.87	0.77	1.26	0.72	0.72
T114/B	—	3.22	11.12	1.13	4.30	1.81	1.16	2.59	1.17	0.90
T127-1/B	T127-1/B	3.51	11.94	1.08	4.47	1.86	1.13	3.56	1.43	1.01
T127-2/B	T127-2/B	4.44	15.11	0.97	4.77	1.89	1.04	5.53	2.21	1.11
T140-1/B	T140-1/B	5.46	18.55	1.28	9.71	3.26	1.33	7.45	2.70	1.17
T140-2/B	T140-2/B	6.70	22.79	1.37	10.98	4.15	1.28	8.60	3.12	1.13
T140-3/B	T140-3/B	9.08	30.91	1.72	22.90	6.99	1.59	11.68	4.24	1.13

Guide rails are manufactured in accordance with the ISO 7465: 1997 (E) specification.

For all major sizes of machined guide rails according to ISO, JIS and other standards as well as for customer specific standards, reduced tolerances and special requirements are offered based on ride comfort and elevator speed application from around 13 ft/sec to over 32 ft/sec.

Specifications

**High Quality
Guide Rails**



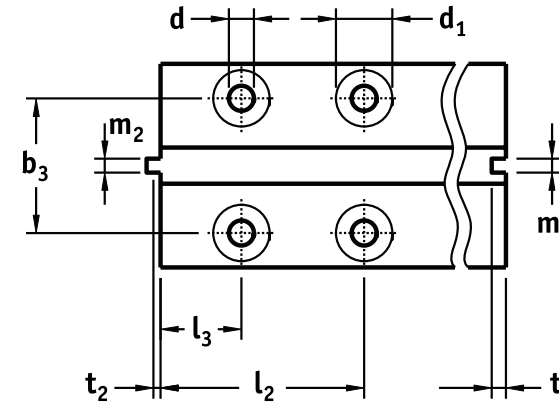
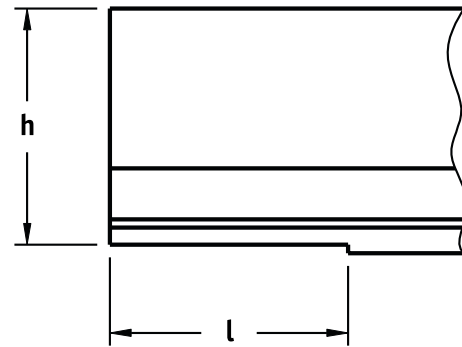
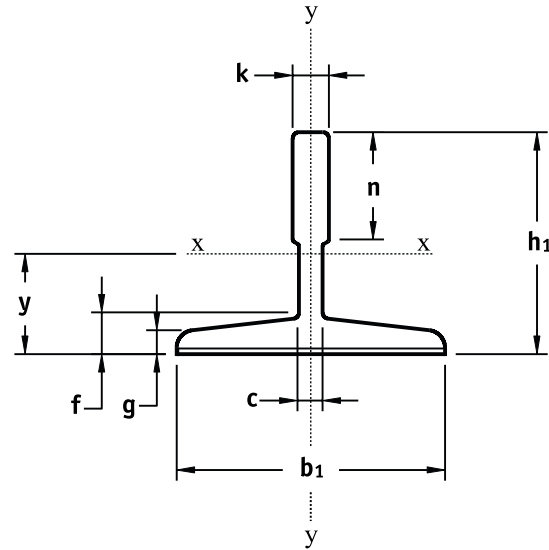
High Quality Guide Rails

Monteferro's High Quality guide rails offer enhanced tolerances through precision manufacturing, desirable in high speed applications. These guide rails are manufactured in standard lengths of 16' and 5m. Custom lengths are also available.

DIMENSIONS

All dimensions in inches unless otherwise noted.

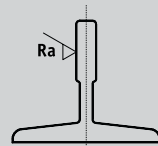
Monteferro Code	ISO Code	q ₁ lb/ft	b ₁	h ₁	h	k	n	c	g	f	m ₁	m ₂	t ₂	t ₁	d	d ₁	l	b ₃	l ₂	l ₃
Tolerances			+/- 0.06	+/- 0.03	+/- 0.002	+0.002, -0					+0.0014, -0	+0, -0.0014	+/- 0.004	+/- 0.004				+/- 0.008	+/- 0.008	+/- 0.008
T89/B	T89/B	8.27	3.50	2.44	2.402	0.625	1.3125	0.375	0.313	0.4375	0.252	0.251	0.281	0.25	0.5625	1.024	6.14	2.250	4.50	1.50
T114/B	—	11.12	4.50	3.50	3.465	0.625	1.5	0.375	0.313	0.4375	0.252	0.251	0.281	0.25	0.6875	1.299	6.14	2.625	4.50	1.50
T127-1/B	T127-1/B	11.94	5.00	3.50	3.465	0.625	1.75	0.375	0.313	0.4375	0.252	0.251	0.281	0.25	0.6875	1.299	6.14	3.125	4.50	1.50
T127-2/B	T127-2/B	15.11	5.00	3.50	3.465	0.625	2	0.375	0.500	0.625	0.252	0.251	0.281	0.25	0.6875	1.299	6.14	3.125	4.50	1.50
T140-1/B	T140-1/B	18.55	5.50	4.25	4.213	0.748	2	0.5	0.500	0.625	0.252	0.251	0.281	0.25	0.8125	1.575	7.6	3.625	6.00	1.25
T140-2/B	T140-2/B	22.79	5.50	4.02	3.976	1.125	2	0.6875	0.563	0.6875	0.252	0.251	0.281	0.25	0.8125	1.575	7.6	3.625	6.00	1.25
T140-3/B	T140-3/B	30.91	5.50	5.00	4.961	1.250	2.25	0.75	0.688	1.000	0.252	0.251	0.281	0.25	0.8125	1.575	7.6	3.625	6.00	1.25



TOLERANCES

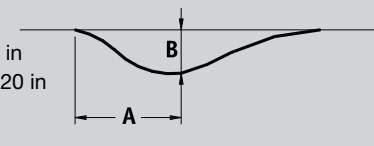
Blade finish

longitudinal Ra ≤ 39μ in
transverse Ra ≤ 98μ in



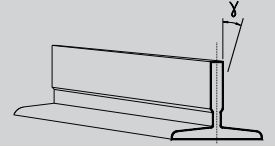
Straightness

B(@A=1'-8") = ± 0.004 in
B(@A=MID PT) = ± 0.020 in



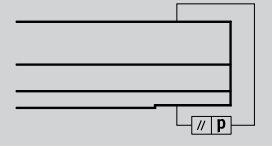
Twisting

γ = 4.6'/ft



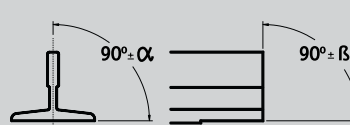
Parallelism

p = 0.002 in



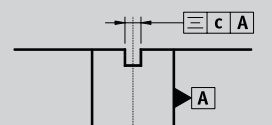
Perpendicularity

α = 5'
β = 15'



Tongue and groove centering

c = 0.001 in



SECTIONAL PROPERTIES

Monteferro Code	ISO Code	a in ²	q ₁ lb/ft	Y in	i _{xx} in ⁴	z _x in ³	r _x in	i _{yy} in ⁴	z _y in ³	r _y in
T89/B	T89/B	2.43	8.27	0.80	1.43	0.87	0.77	1.26	0.72	0.72
T114/B	—	3.22	11.12	1.13	4.30	1.81	1.16	2.59	1.17	0.90
T127-1/B	T127-1/B	3.51	11.94	1.08	4.47	1.86	1.13	3.56	1.43	1.01
T127-2/B	T127-2/B	4.44	15.11	0.97	4.77	1.89	1.04	5.53	2.21	1.11
T140-1/B	T140-1/B	5.46	18.55	1.28	9.71	3.26	1.33	7.45	2.70	1.17
T140-2/B	T140-2/B	6.70	22.79	1.37	10.98	4.15	1.28	8.60	3.12	1.13
T140-3/B	T140-3/B	9.08	30.91	1.72	22.90	6.99	1.59	11.68	4.24	1.13

Guide rails are manufactured in accordance with the ISO 7465: 1997 (E) specification.

MONTEFERRO Matched guide rails have set a standard for the highest speed elevator market segment.

Specifications

**Matched
Guide Rails**



Matched Guide Rails

Monteferro offers our Matched superior quality guide rail for high speed and high comfort ride applications.

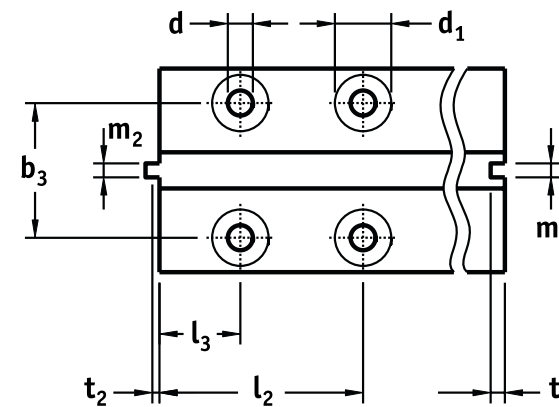
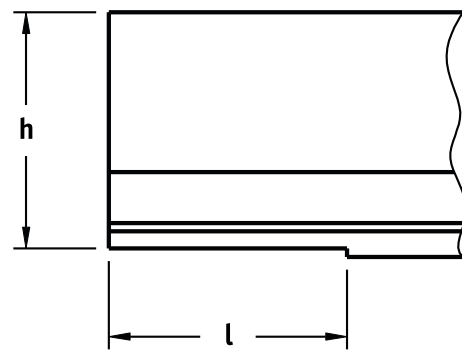
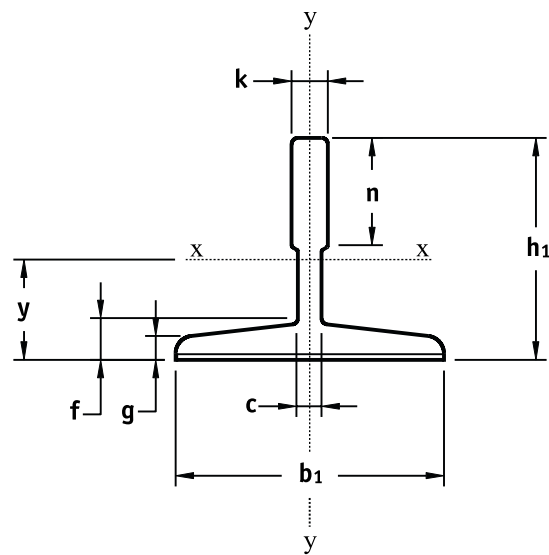
Our enhanced manufacturing process allows Monteferro to provide exceptionally tight joint tolerances, guaranteeing a perfect field assembly. To achieve this, Monteferro performs a complete joint assembly in our factory. Each joint is tested and numbered to ensure a perfect field fit.

Superior quality, with reduced field labor.

DIMENSIONS

All dimensions in inches unless otherwise noted.

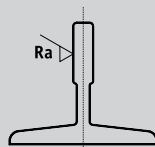
Monteferro Code	ISO Code	q ₁ lb/ft	b ₁	h ₁	h	k	n	c	g	f	m ₁	m ₂	t ₁	t ₂	d	d ₁	l	b ₃	l ₂	l ₃
Tolerances			+/- 0.06	+/- 0.03	+/-0.0012	+0.002, -0					+0.0008, -0	+0, -0	+/-0.004	+/-0.004				+/- 0.008	+/- 0.008	+/- 0.008
T127-2/B	T127-2/B	15.11	5.0	3.50	3.465	0.625	2	0.375	0.500	0.625	0.252	0.251	0.281	0.25	0.6875	1.299	6.14	3.125	4.50	1.50
T140-1/B	T140-1/B	18.55	5.5	4.25	4.213	0.748	2	0.5	0.500	0.625	0.252	0.251	0.281	0.25	0.8125	1.575	7.6	3.625	6.00	1.25
T140-2/B	T140-2/B	22.79	5.5	4.02	3.976	1.125	2	0.6875	0.563	0.6875	0.252	0.251	0.281	0.25	0.8125	1.575	7.6	3.625	6.00	1.25
T140-3/B	T140-3/B	30.91	5.5	5.00	4.961	1.250	2.25	0.75	0.688	1.000	0.252	0.251	0.281	0.25	0.8125	1.575	7.6	3.625	6.00	1.25



TOLERANCES

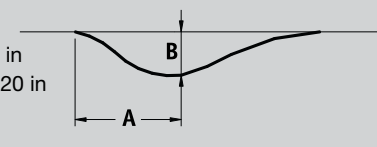
Blade finish

longitudinal Ra ≤ 39μ in
transverse Ra ≤ 98μ in



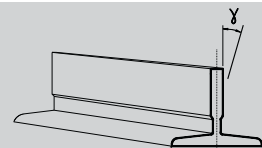
Straightness

B(@A=1'-8") = ± 0.004 in
B(@A=MID PT) = ± 0.020 in



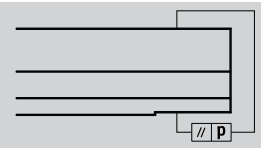
Twisting

γ = 4.6'/ft



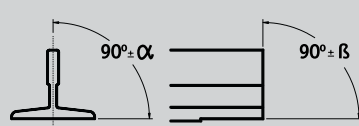
Parallelism

p = 0.002 in



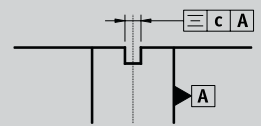
Perpendicularity

α = 5'
β = 15'



Tongue and groove centering

c = 0.001 in



SECTIONAL PROPERTIES

Monteferro Code	ISO Code	a in ²	q ₁ lb/ft	y in	i _{xx} in ⁴	z _x in ³	r _x in	i _{yy} in ⁴	z _y in ³	r _y in
T127-2/B	T127-2/B	4.44	15.11	0.97	4.77	1.89	1.04	5.53	2.21	1.11
T140-1/B	T140-1/B	5.46	18.55	1.28	9.71	3.26	1.33	7.45	2.70	1.17
T140-2/B	T140-2/B	6.70	22.79	1.37	10.98	4.15	1.28	8.60	3.12	1.13
T140-3/B	T140-3/B	9.08	30.91	1.72	22.90	6.99	1.59	11.68	4.24	1.13

Guide rails are manufactured in accordance with the ISO 7465: 1997 (E) specification.

Fishplates are supplied in accordance with international and customer specific standards. Special application fishplates such as Extra Thick, T-Plates, Minimum Clearance Seismic Plates (in accordance to ASME A17.1 for earthquake zone requirements) and Ultra System are supplied to enhance joint performances on high speed application in conjunction with High Quality and Matched guide rails. Clips including forged clips, sliding clips and special fastening systems as well as guide rail fixing systems, are supplied according to the various global code and customer requirements.

Specifications

Accessories

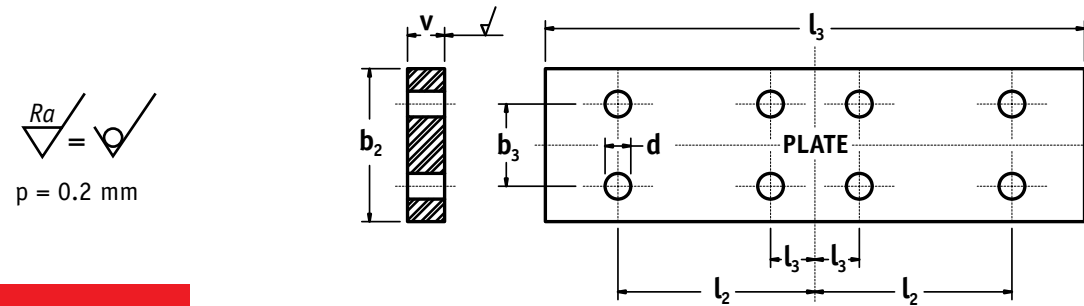


Fishplates

Monteferro manufactures a complete range of fishplates for varying hoistway applications. We also offer custom and special application fishplate design and manufacturing.

COLD DRAWN GUIDE RAIL FISHPLATES

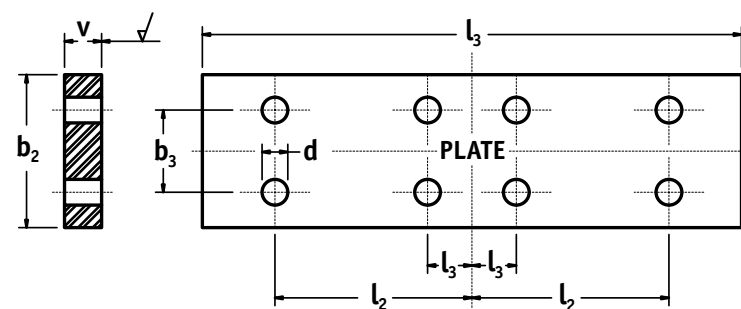
Monteferro Code	d mm	b ₂ mm	b ₃ mm	l ₁ mm	l ₂ mm	l ₃ mm	v mm	w _{yy} cm ³	w _{xx} cm ³	Weight kg/pcs	Bolt Size
RT40	9	40	23	200	85	15	6	0.24	1.60	0.35	M 8 x 25
RT45	9	50	25	160	65	15	8	0.53	3.33	0.50	M 8 x 25
RT50	9	50	30	200	75	25	8	0.53	3.33	0.60	M 8 x 25
RT70	13	70	42	250	105	25	10	1.17	8.17	1.29	M 12 x 35
RT80	13	80	42	250	105	25	10	1.33	10.67	1.49	M 12 x 35
RF50	9	50	30	200	75	25	8	0.53	3.33	0.60	M 8 x 25
RF65	10	70	40	160	65	15	10	1.17	8.17	0.83	M 10 x 30
RF70	13	70	42	250	105	25	10	1.17	8.17	1.29	M 12 x 35
RF70-9	13	75	43	240	90	30	10	1.25	9.38	1.33	M 12 x 35
RF75	13	75	43	240	90	30	10	1.25	9.38	1.33	M 12 x 35
RF82	13	80	50.8	216	81	27	10	1.33	10.67	1.27	M 12 x 35
RF89	13	90	57.2	305	114.3	38.1	10	1.50	13.50	2.07	M 12 x 35
RF90	13	90	57.2	305	114.3	38.1	10	1.50	13.50	2.07	M 12 x 35



STANDARD FISHPLATES

All dimensions in inches unless otherwise noted.

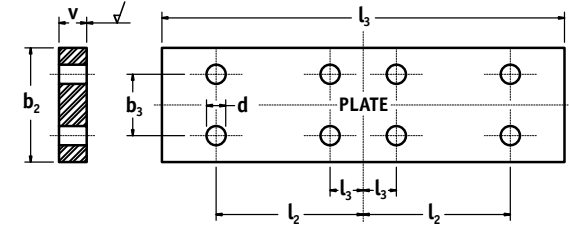
Rail Size	Weight lbs/pc	d	b ₂	b ₃	l ₁	l ₂	l ₃	v	Hex Head Bolt Size
T70	4.68	0.5625	2.75	1.813	12.0	4.50	1.50	0.50	1/2 x 1 1/2
T89	7.44	0.5625	3.50	2.250	12.0	4.50	1.50	0.63	1/2 x 1 3/4
T114	11.49	0.6875	4.50	2.625	12.0	4.50	1.50	0.75	5/8 x 2
T127-1	12.76	0.6875	5.00	3.125	12.0	4.50	1.50	0.75	5/8 x 2
T127-2	12.76	0.6875	5.00	3.125	12.0	4.50	1.50	0.75	5/8 x 2
T140-1	22.62	0.8125	5.50	3.625	14.5	6.00	1.25	1.00	3/4 x 2 1/2
T140-2	22.62	0.8125	5.50	3.625	14.5	6.00	1.25	1.00	3/4 x 2 1/2
T140-3	28.27	0.8125	5.50	3.625	14.5	6.00	1.25	1.25	3/4 x 3



DOUBLE THICK FISHPLATES

Used to improve guide rail stiffness in high speed applications.

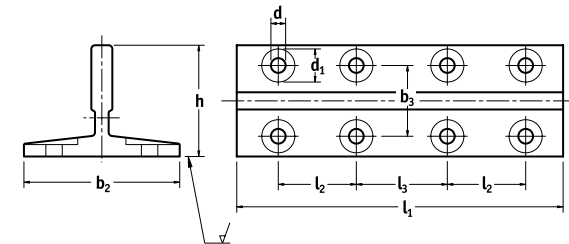
Rail Size	Weight lbs/pc	d	b ₂	b ₃	l ₁	l ₂	l ₃	v	Hex Head Bolt Size
T70	9.36	0.5625	2.75	1.813	12.0	4.50	1.50	1.00	1/2 x 2
T89	14.89	0.5625	3.50	2.250	12.0	4.50	1.50	1.25	1/2 x 2 1/2
T114	22.97	0.6875	4.50	2.625	12.0	4.50	1.50	1.50	5/8 x 2 3/4
T127-1	25.53	0.6875	5.00	3.125	12.0	4.50	1.50	1.50	5/8 x 2 3/4
T127-2	25.53	0.6875	5.00	3.125	12.0	4.50	1.50	1.50	5/8 x 2 3/4
T140-1	45.24	0.8125	5.50	3.625	14.5	6.00	1.25	2.00	3/4 x 3 1/2
T140-2	45.24	0.8125	5.50	3.625	14.5	6.00	1.25	2.00	3/4 x 3 1/2
T140-3	56.54	0.8125	5.50	3.625	14.5	6.00	1.25	2.50	3/4 x 4 1/2



T - PLATES

Manufactured from the same section as the guide rail, these fishplates provide mechanical characteristics that satisfy the requirements of ANSI A17.1, Seismic Zone 3.

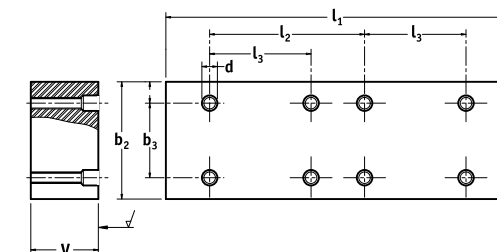
Rail Size	Weight lbs/pc	d	d ₁	b ₂	b ₃	l ₁	l ₂	l ₃	h	Hex Head Bolt Size
T89	8.27	0.5625	1.024	3.50	2.250	12.0	3.00	3.00	2.44	1/2 x 2
T114	11.12	0.6875	1.299	4.50	2.625	12.0	3.00	3.00	3.50	5/8 x 2 1/4
T127-2	15.11	0.6875	1.299	5.00	3.125	12.0	3.00	3.00	3.50	5/8 x 2 1/4
T140-1	22.41	0.8125	1.575	5.50	3.625	14.5	4.75	2.50	4.25	3/4 x 2 3/4
T140-2	27.54	0.8125	1.575	5.50	3.625	14.5	4.75	2.50	4.00	3/4 x 2 3/4
T140-3	37.35	0.8125	1.575	5.50	3.625	14.5	4.75	2.50	5.00	3/4 x 3



MINIMUM CLEARANCE SEISMIC FISHPLATES

Designed to fulfill the requirements of ANSI A17.1, Seismic Zone 3 with a minimum fishplate depth. These fishplates are manufactured with a threaded (tapped) hole for ease of installation.

Rail Size	Weight lbs/pc	d	b ₂	b ₃	l ₁	l ₂	l ₃	v	Hex Head Bolt Size
T89	20.09	0.5625	3.50	2.250	12.0	6.00	3.00	1.687	1/2 x 2
T114	34.54	0.6875	5.00	2.620	12.0	6.00	3.00	2.200	5/8 x 2 1/4
T127-2	38.37	0.6875	5.00	3.125	12.0	6.00	3.00	2.255	5/8 x 2 1/4
T140-1	62.49	0.8125	5.50	3.625	14.5	7.25	4.75	2.763	3/4 x 2 3/4
T140-2	65.57	0.8125	5.50	3.625	14.5	7.25	4.75	2.899	3/4 x 2 3/4
T140-3	84.61	0.8125	5.50	3.625	14.5	7.25	4.75	3.741	3/4 x 3



Clips

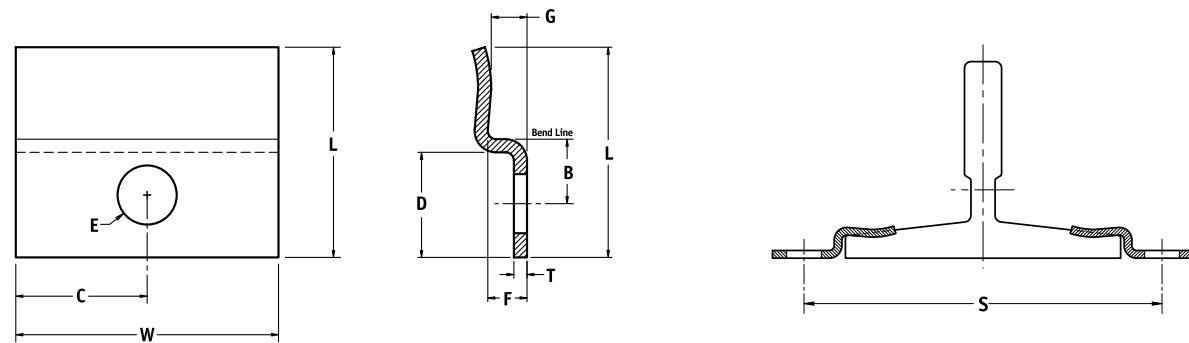
Monteferro offers four types of guide rail clamping systems adaptable to your specific design needs.

SLIDING CLIPS

All dimensions in inches unless otherwise noted.

Pressed steel sliding guide rail clamping system. Recommended for applications where guide rail stack movement is required due to thermal expansion or building settlement.

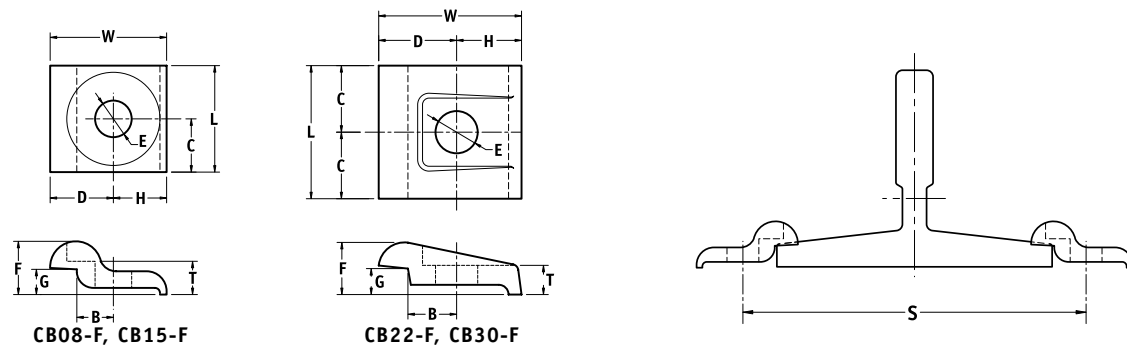
Monteferro Part No.	Applicable Rail Size	Weight lbs/pc	l	w	b	c	d	e	f	g	t	s (+/- 0.125)
CB08-S	T89	0.20	2.000	2.500	0.531	1.250	1.000	0.563	0.375	0.281	0.125	4.56
CB12-S	T114	0.49	2.688	3.000	0.813	1.500	1.250	0.688	0.375	0.313	0.188	6.13
CB12-S	T127-1	0.49	2.688	3.000	0.813	1.500	1.250	0.688	0.375	0.313	0.188	6.63
CB15-S	T127-2	0.52	2.750	3.000	0.781	1.500	1.250	0.688	0.563	0.500	0.188	6.63
CB15-S	T140-1	0.52	2.750	3.000	0.781	1.500	1.250	0.688	0.563	0.500	0.188	6.56
CB22-S	T140-2	0.61	3.200	3.500	1.000	1.750	1.813	0.813	0.526	0.479	0.188	7.07



FORGED CLIPS

Hot forged rigid guide rail clamping system. Recommended use for applications where guide rail stack movement is not expected.

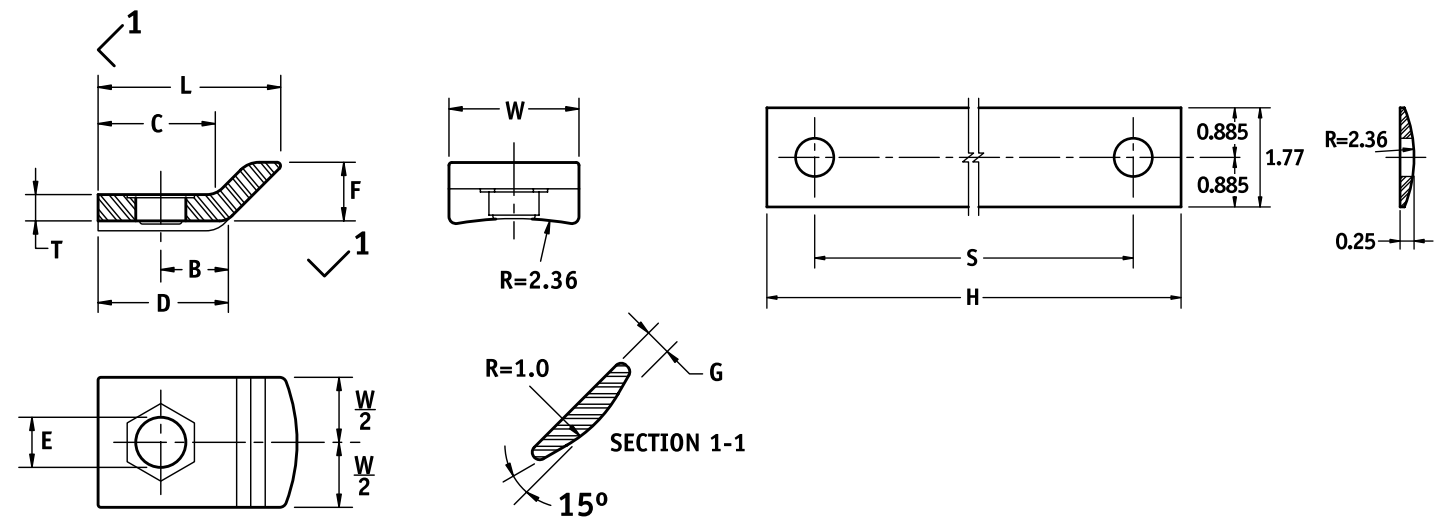
Monteferro Part No.	Applicable Rail Size	Weight lbs/pc	l	w	b	c	d	e	f	g	h	t	s (+/- 0.14)
CB08-F	T89	0.18	1.625	1.625	0.500	0.813	0.875	0.563	0.719	0.313	0.750	0.389	4.50
CB15-F	T114	0.42	2.000	2.188	0.688	1.000	1.188	0.688	1.000	0.500	1.000	0.625	5.88
CB15-F	T127-1	0.42	2.000	2.188	0.688	1.000	1.188	0.688	1.000	0.500	1.000	0.625	6.38
CB15-F	T127-2	0.42	2.000	2.188	0.688	1.000	1.188	0.688	1.000	0.500	1.000	0.625	6.38
CB15-F	T140-1	0.42	2.000	2.188	0.688	1.000	1.188	0.688	1.000	0.500	1.000	0.625	6.88
CB22-F	T140-2	0.92	2.563	2.750	0.938	1.281	1.500	0.813	1.000	0.500	1.250	0.625	7.39
CB30-F	T140-3	1.15	3.000	2.750	0.938	1.500	1.500	0.813	1.125	0.750	1.250	0.750	7.39



SLIDING CLAMP

Hot forged sliding guide rail clamping system. Engineered to provide a point bearing contact used in conjunction with the Feather Edge radius guide rail seat. This clamp system provides the strength of a forged clip with the flexibility of the sliding clip. This system is recommended for high-rise and high-speed applications.

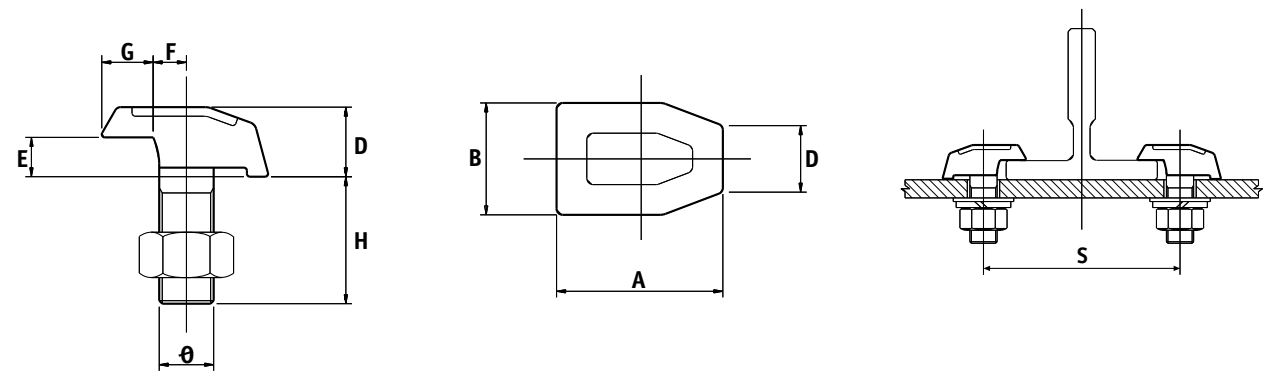
Monteferro Part No.	Applicable Rail Size	Weight lbs/pc	l	w	b	c	d	e mm	f	g	t	h	s (+/- 0.02)
CB08-C	T89	0.95	1.73	1.57	0.71	1.14	1.30	14	0.55	0.31	0.275	6.77	5.43
CB11-C	T114	1.07	1.73	1.57	0.71	1.14	1.30	14	0.55	0.31	0.275	8.19	6.61
CB15-C	T127-1	1.43	2.17	1.77	0.71	1.38	1.50	18	0.79	0.35	0.393	8.94	7.20
CB15-C	T127-2	1.43	2.17	1.77	0.71	1.38	1.50	18	0.79	0.35	0.393	8.94	7.20
CB18-C	T140-1	1.47	2.17	1.77	0.71	1.38	1.50	18	0.79	0.35	0.393	9.53	7.80
CB22-C	T140-2	1.50	2.17	1.77	0.71	1.38	1.50	18	0.79	0.35	0.393	9.84	8.27



T - CLIPS

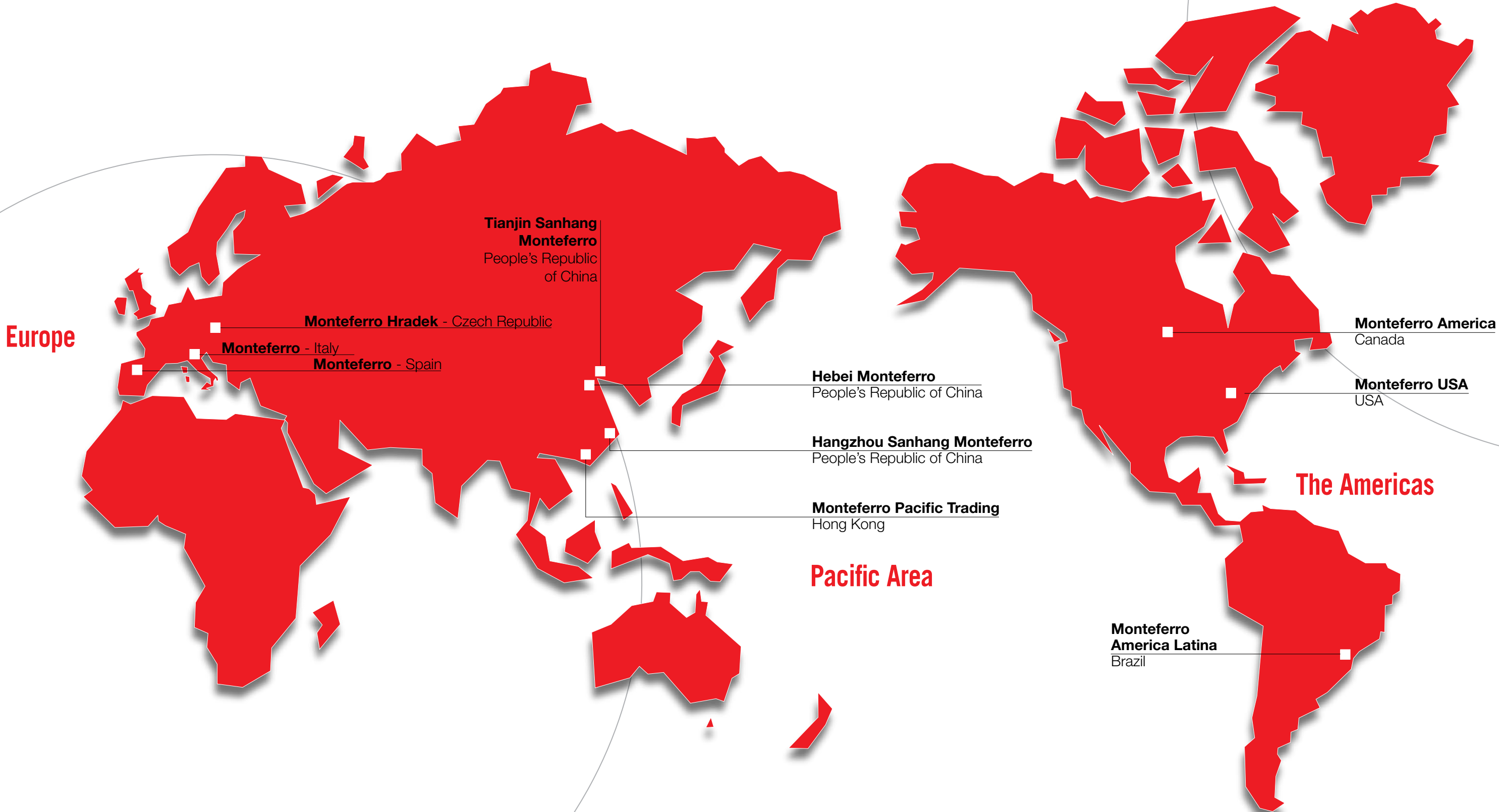
Hot forged rigid guide rail clamping system. Recommended use for applications where guide rail stack movement is not expected. These clips come complete with threaded shank and nut.

Monteferro Part No.	Applicable Rail Size	Weight lbs/pc	Bolt Size metric	a	b	c	d	e	f	g	h	s (+/- 0.02)
CB08-T3	T89	0.26	M14	1.772	1.142	0.827	0.630	0.335	0.354	0.472	1.378	4.13
CB15-T4	T127-2	0.40	M16	1.969	1.299	0.866	0.748	0.433	0.394	0.591	1.575	5.67
CB22-T5	T140-2	0.70	M18	2.165	1.457	0.866	0.906	0.512	0.433	0.699	1.654	6.38



Network

Each MONTEFERRO customer has its own production, delivery and installation standards. By partnering with elevator companies, understanding their needs and suggesting solutions for improvements, MONTEFERRO has developed a wide range of recommendations for guide rail and accessory supply.



Product and Service Information

Business relations between elevator companies and their suppliers have changed and become closer and closer, transforming suppliers into partners to whom additional functions are delegated. Monteferro is able to propose and develop a customized relationship with every customer in order to satisfy individual needs, and it is our goal to be considered your worldwide solution provider.

MONTEFERRO QUALITY SYSTEM

Since 1995 Monteferro Quality System has been certified in accordance with ISO 9002 International Standards and since 2003 according to UNI EN ISO 9001:2000.

GUIDE RAIL INTERNATIONAL STANDARD

Standard	Guide Rail Norm	Raw Material	
		Cold Drawn	Machined
ISO	7465	E 235 B (Fe 360 B)	E 275 B (Fe 430 B)
UNI	7465	E 235 B (Fe 360 B)	E 275 B (Fe 430 B)
ANSI	A17-1	—	ASFM-A36
AFNOR	NF P 82/251	E 24-2	E 28-2
JIS	—	—	—
BS	5655/9	4360/40A	4360/43A
DIN	15311	St 37-2	St 44-2



GUIDE RAIL RUST PREVENTATIVES & CLEANERS

Rust preventatives

Type	Thickness	Months Outdoors	Months Indoors
Tectyl 511M (oil)	2-10 μ	*	1-3
Tectyl 506 EH (Wax)	20-30 μ	1-3	6-12
Tectyl 506 EH (Wax)	40-50 μ	3-6	12-36
Castrol TARP (oil)	02-20 μ	1-3	6-12

Cleaners

Type	Solubility in Water	Characteristics
SA 120	>50%	Eco cleaner
De-Solv-It 1000	—	Fast cleaner

Data could change according to environmental humidity and salinity.

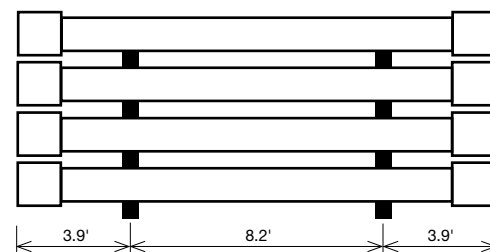
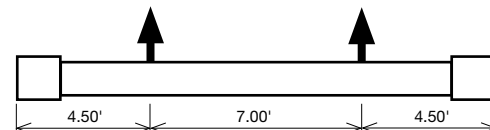
GUIDE RAIL HANDLING AND STORING

Bundles must be lifted with forklifts or a crane with two slings – one sling placed at each end of the bundle. The minimum distance between the two slings (the lifting points) should be 7.00 ft., which means the lifting points will be 4.50 ft. from each end.

As normal bundle weights range between 1100 and 2200 lbs., it is recommended not to lift more than two bundles at once. It is preferable to handle one bundle at a time.

Bundles should be stored horizontally on wooden blocking, placed for each level of bundle and at the same distance from the ends. This is important to prevent any permanent deformation and loss of linearity properties of the guide rails.

The blocking distance from bundle ends depends on the package solution adopted. It is preferable to handle one bundle at a time.



STANDARD GUIDE RAIL BUNDLE PACKING

Monteferro America Guide Rail Code	Monteferro Guide Rail Code	ISO Code	Weight per bar kg	Weight per bar lbs	Number of bars per standard bundle pcs	Number of bars per full container pcs
	RT 40	—	14.82		54	1404
	RT 45	T 45/A	16.77		54	1242
	RT 50	T 50/A	18.74		42	1134
	RT 70	T 70-2/A	41.51		22	506
	RT 80	—	53.48		16	400
	RF 50	—	27.84		42	756
	RF 70	T 70-1/A	37.51		22	572
	RF 70.9	—	44.31		22	484
	RF 75	T 75-3/A	43.31		22	484
	RF 65	—	24.58		30	870
	RF 82	T 82/A	42.98		16	496
	RF 89	T 89/A	61.73		16	336
	RF 90	T 90/A	66.74		15	315
	RP 75	T 75-3/B	43.31		22	484
	RP 78	—	38.65		22	550
	RP 82	T 82/B	42.98		16	496
T89/B		T 89/B		132.32	8	336
	RP 90	T 90/B	66.74		15	315
	RP 114	—	82.21		10	260
	RP 125	T 125/B	90.25	191.00	10	230
T127-1/B		T 127-1/B			8	240
T127-2/B		T 127-2/B		241.76	8	184
	RP 127-2 c 14	—	116.90		8	176
T 140-1/B		T 140-1/B		296.80	6	152
T 140-2/B		T 140-2/B		364.64	4	124
T 140-3/B		T 140-3/B		494.56	4	92

CUSTOMIZED PROPOSALS

Special packing

Special packing solutions to fulfill customer logistic needs and guide rail protection:

- Multiple guide rail bundles
- Special sea packing
- Special protection bundles (frame)
- Bundles for guide rail supply with fishplate assembled

Special surface treatments

Painted and zinc coated guide rails and fishplates for Panoramic lift or heavy environmental conditions application.

Commission solution

Guide rail bundles and accessories supplied for specific lift. Each column for the commission is supplied using standard length guide rails and cut down sizes with length according to the elevator column length. Fishplate mounted, anti-skid supports, customized labels and many other possibilities are available.

Hoistway kit

Hoistway (shaft) material supplied for specific lift. The customized kit solutions include lift specific quantities and types of brackets, pillars, buffers, counterweight, fixing, joining screws, installation kit, etc.

MATCHED GUIDE RAILS FOR HIGH SPEED ELEVATORS

Guide rails for high speed applications supplied with matched joints and numbered with a sequential, progressive numbering system by columns. This enhanced manufacturing process allows superior quality with reduced field labor.

Monteferro customer service offices are at your disposal to analyse any problem of yours.



SIMPLY UP

MONTEFERRO: one identity for many companies.

From Europe to Asia, from North America to South America the mission of our group is the same: to provide our customers with the best service for guide rail systems. This is our experience, our strength and our vision. And this is our great identity.



www.monteferroamerica.com

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