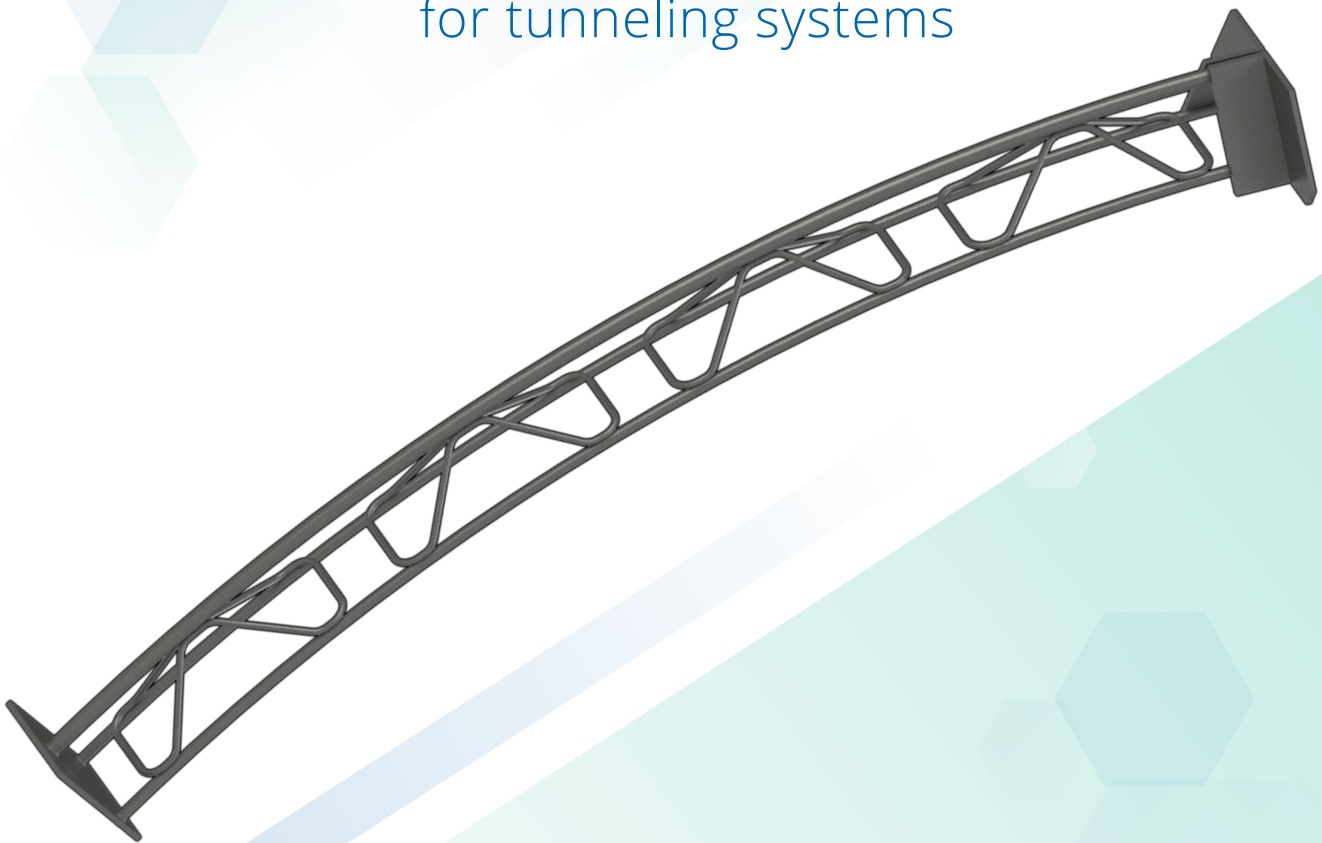




## Lattice Girder

An immediate roof support  
for tunneling systems



**Dextra**

## About Lattice Girder

GEOTEC lattice girder systems are lightweight, three-dimensional curved steel frames which are composed of main bars, secondary bars, connection plates, foot plates and stiffeners. The lattice girder can provide immediate support for tunneling environments. The radius of the bending is tailor-made to meet each project's demands.

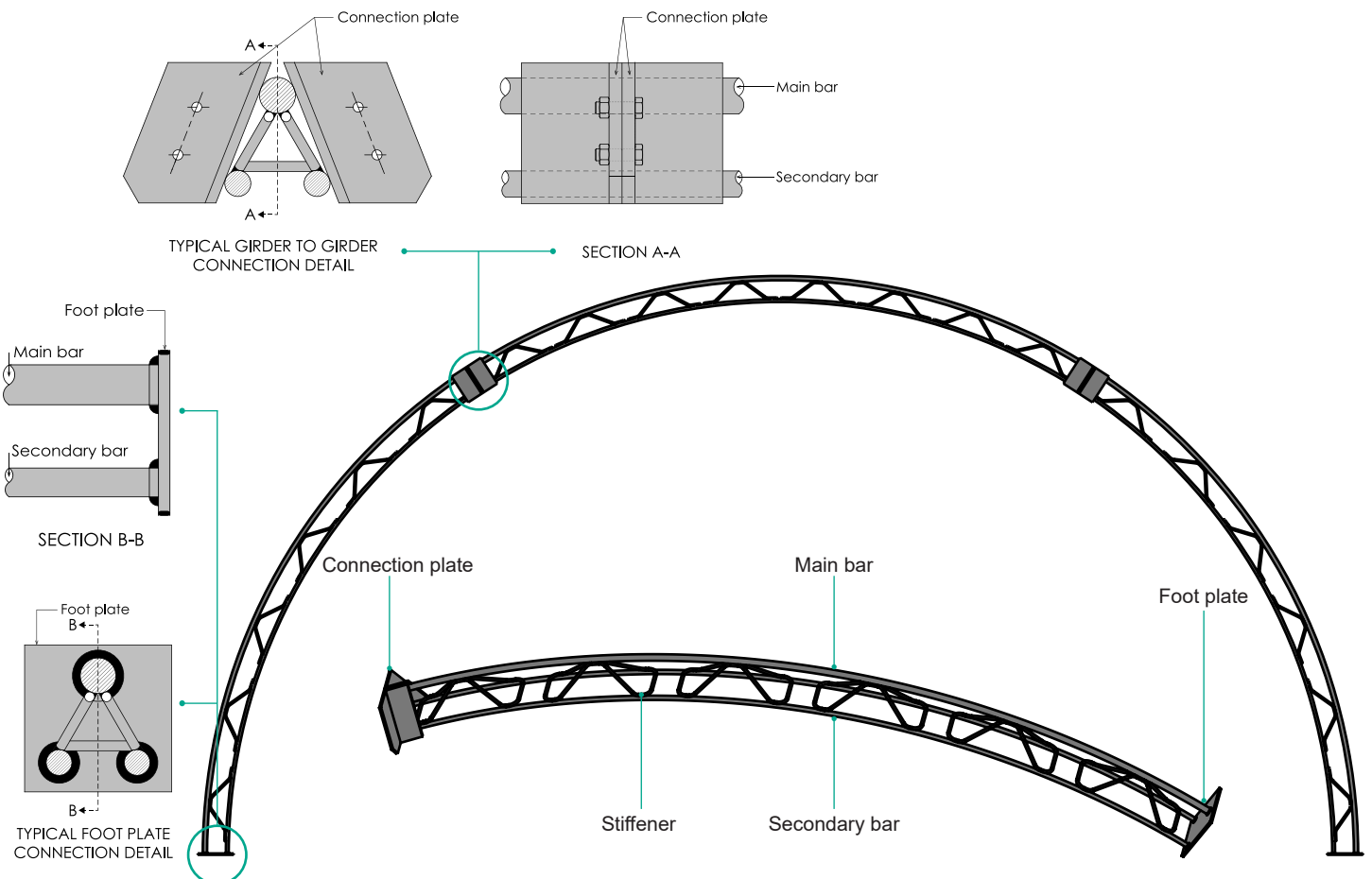
## Product features

- Two types of design: 3-bar or 4-bar, for different force requirements
- Flexible design with different dimensions available
- Immediate support for tunnels
- Entirely integrated in the shotcrete lining
- Avoid porous zones and shotcrete spray shadows

## Key benefits

- Simple and fast installation
- Solid support for spiling bolts
- Temporary support for shotcrete until it gains sufficient strength to support itself
- Immediate support in the area of the tunnel face
- High moment capacity
- No requirement for major equipment

## Applications

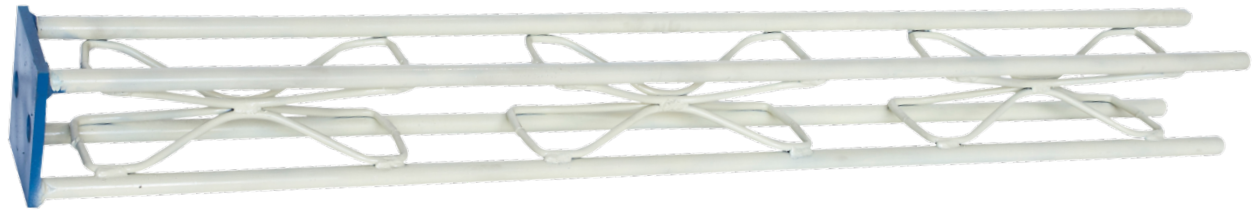


## Dimensions

### Three-bar



### Four-bar



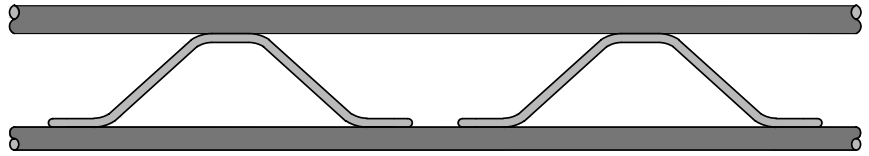
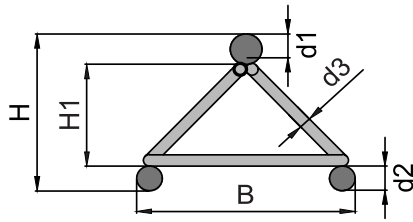
Welding test by vertical loading until steel bars yield.

## System components

Components	Steel types	Standard/Grade	Yield Strength (MPa)	Tensile Strength (MPa)
Main bar	Smooth reinforced steel bar	ASTM A615/A615M Gr.75	520	690
Secondary bar	Smooth reinforced steel bar	ASTM A615/A615M Gr.75	520	690
Stiffener	Smooth reinforced steel bar	ASTM A615/A615M Gr.60	420	620
Connection plate	Steel plate	EN 10025-2 S235	235	350 - 510
Foot plate	Steel plate	EN 10025-2 S235	235	350 - 510

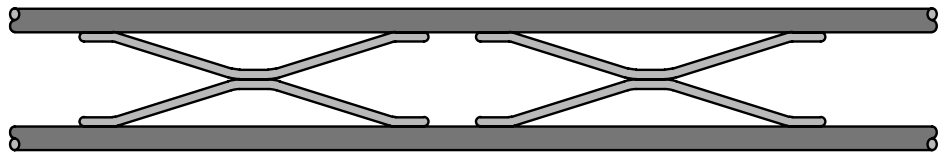
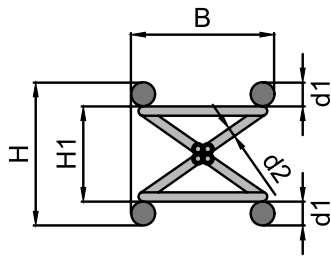
Other specifications are available upon request.

## Technical data sheet (Three-bar spider design)



Symbols	H1	H	B	d1	d2	d3	A1	A2	A	Ix	Wx	Weight
Ref / Units	mm	mm	mm	mm	mm	mm	cm <sup>2</sup>	cm <sup>2</sup>	cm <sup>2</sup>	cm <sup>4</sup>	cm <sup>3</sup>	kg/m
95-20-25	50	95	100	25	20	10	4.91	3.14	11.19	148	28	10.2
100-20-30	50	100	100	30	20	10	7.07	3.14	13.35	193	38	11.9
106-20-36	50	106	100	36	20	10	10.18	3.14	16.46	246	42	14.3
105-25-30	50	105	100	30	25	10	7.07	4.91	16.89	255	42	14.7
111-25-36	50	111	100	36	25	10	10.18	4.91	20.00	336	58	17.1
116-30-36	50	116	100	36	30	10	10.18	7.07	24.32	424	64	20.5
115-20-25	70	115	140	25	20	10	4.91	3.14	11.19	239	37	10.4
120-20-30	70	120	140	30	20	10	7.07	3.14	13.35	306	51	12.1
126-20-36	70	126	140	36	20	10	10.18	3.14	16.46	383	54	14.5
125-25-30	70	125	140	30	25	10	7.07	4.91	16.89	398	56	14.9
131-25-36	70	131	140	36	25	10	10.18	4.91	20.00	517	77	17.3
136-30-36	70	136	140	36	30	10	10.18	7.07	24.32	644	83	20.7
140-20-25	95	140	180	25	20	10	4.91	3.14	11.19	384	49	10.8
145-20-30	95	145	180	30	20	10	7.07	3.14	13.35	485	66	12.5
151-20-36	95	151	180	36	20	10	10.18	3.14	16.46	598	69	14.9
150-25-30	95	150	180	30	25	10	7.07	4.91	16.89	625	72	15.3
156-25-36	95	156	180	36	25	10	10.18	4.91	20.00	799	100	17.7
161-30-36	95	161	180	36	30	10	10.18	7.07	24.32	986	107	21.1
160-20-25	115	160	220	25	20	12	4.91	3.14	11.19	525	58	11.0
165-20-30	115	165	220	30	20	12	7.07	3.14	13.35	658	78	12.7
171-20-36	115	171	220	36	20	12	10.18	3.14	16.46	804	82	15.1
170-25-30	115	170	220	30	25	12	7.07	4.91	16.89	842	86	15.5
176-25-36	115	176	220	36	25	12	10.18	4.91	20.00	1070	120	17.9
181-30-36	115	181	220	36	30	12	10.18	7.07	24.32	1312	126	21.3
175-20-25	130	175	220	25	20	12	4.91	3.14	11.19	644	66	11.2
180-20-30	130	180	220	30	20	12	7.07	3.14	13.35	805	87	12.9
186-20-36	130	186	220	36	20	12	10.18	3.14	16.46	980	91	15.3
185-25-30	130	185	220	30	25	12	7.07	4.91	16.89	1027	96	15.7
191-25-36	130	191	220	36	25	12	10.18	4.91	20.00	1299	134	18.1
196-30-36	130	196	220	36	30	12	10.18	7.07	24.32	1589	141	21.5

## Technical data sheet (Four-bar butterfly design)



Symbols	H1	H	B	d1	d3	A	Wx	Wy	Weight
Ref / Units	mm	mm	mm	mm	mm	cm <sup>2</sup>	cm <sup>3</sup>	cm <sup>3</sup>	kg/m
G100-20	100	140	100	20	10	12.57	65	41	12.7
G100-25	100	150	100	25	10	19.63	103	56	14.3
G100-30	100	160	100	30	10	28.27	151	72	19.4
G100-36	100	172	100	36	10	40.72	222	88	26.7
G140-20	150	190	140	20	10	12.57	96	65	13.1
G140-25	150	200	140	25	10	19.63	151	94	18.5
G140-30	150	210	140	30	10	28.27	219	124	25.3
G140-36	150	222	140	36	10	40.72	319	161	35.1
G190-20	190	230	180	20	10	12.57	121	90	13.9
G190-25	190	240	180	25	10	19.63	190	132	19.3
G190-30	190	250	180	30	10	28.27	275	178	26.1
G190-36	190	262	180	36	10	40.72	399	237	35.9
G230-20	230	270	220	20	10	12.57	146	114	14.3
G230-25	230	280	220	25	10	19.63	228	170	19.7
G230-30	230	290	220	30	10	28.27	330	233	26.5
G230-36	230	302	220	36	10	40.72	479	316	36.3
G260-20	260	300	220	20	10	12.57	164	114	14.7
G260-25	260	310	220	25	10	19.63	258	170	20.1
G260-30	260	320	220	30	10	28.27	372	233	26.9
G260-36	260	332	220	36	10	40.72	539	316	36.7





Commercial presence  
in more than  
**55** countries



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