

# BBR HiAm CONA

## Strand Stay Cable System



The BBR HiAm<sup>®</sup> CONA parallel strand stay cable system is the best product on the international market place. It has the highest capacity, most compact and widest range of anchorages available up to 217 strands. The BBR HiAm CONA stay cable system can be used for cable-stayed bridges, arch bridges and roofs. It fulfills latest international standards and recommendations including *fib* Bulletin 30 as well as PTI and CIP (Setra) recommendations.



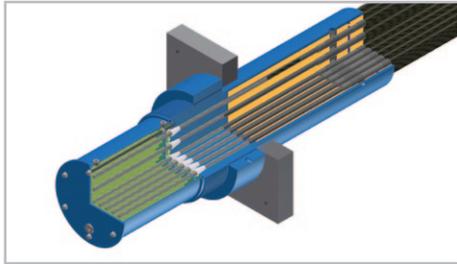
Basarab Bridge (Romania)

# BBR HiAm CONA

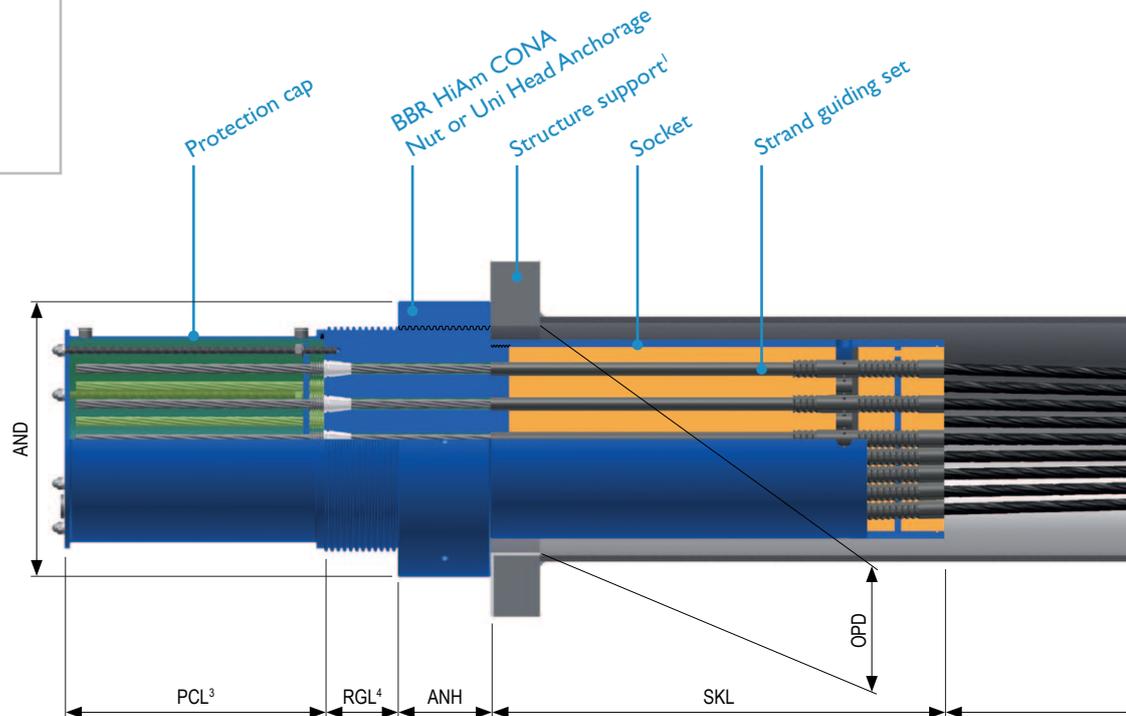
## Strand Stay Cable System



### Adjustable (stressing-end) anchorage



BBR HiAm CONA Nut Head



### Technical specifications

BBR HiAm CONA	Type			001 06	002 06	003 06	004 06	007 06	012 06	013 06	019 06	022 06	024 06	027 06	031 06
	Number of strands	n		1	2	3	4	7	12	13	19	22	24	27	31
	Breaking Strength		[kN]	279	558	837	1,116	1,953	3,348	3,627	5,301	6,138	6,696	7,533	8,649
Standard Stay Pipe <sup>5</sup>	Standard Diameter	SPD	[mm]	-	50	63	63	90	110	110	125	140	140	160	160
	Wall Thickness	SPT	[mm]	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Compact Stay Pipe	Standard Diameter	SPD	[mm]	-	50.0	50.0	63.0	90.0	90.0	110.0	110.0	125.0	125.0	140	140
	Wall Thickness	SPT	[mm]	-	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Nut Head & Standard Uni Head Anchorage	Height	ANH	[mm]	45	55	55	65	65	75	75	90	95	100	105	110
	Diameter	AND	[mm]	80	115	140	155	180	215	230	265	285	295	310	325
	Length	SKL	[mm]	485	535	585	685	735	735	735	735	735	735	735	735
Short Socket Uni Head Anchorage	Height	ANH	[mm]	100	100	100	100	105	105	105	110	115	120	125	130
	Diameter	AND	[mm]	78	115	127	135	166	200	217	249	271	289	293	308
	Length	SKL	[mm]	225	225	225	225	225	225	225	225	225	225	225	225
Guide Deviator	Distance from Socket	GDL	[mm]	240	240	275	335	475	720	820	945	1,080	1,180	1,190	1,250
Free Deviator	Distance from Socket	DVL	[mm]	-	270	310	380	535	820	930	1,070	1,230	1,340	1,350	1,415
Square Damper	Distance from Socket	SDL	[mm]	1,285	1,465	1,495	1,555	1,685	1,890	1,930	2,085	2,185	2,185	2,290	2,320
Opening	Standard	OPD	[mm]	68	98	121	133	148	183	198	228	245	248	258	268
	Short Socket	OPD	[mm]	63	97	103	109	129	168	180	200	219	232	235	245
	Compact <sup>5</sup>	OPD	[mm]	63	91	102	110	130	165	178	198	218	231	233	242
Weight	Stay Cable	m <sub>s</sub>	[kg/m]	1.3	3.4	4.7	6.0	10.3	17.1	18.4	26.4	30.7	33.3	37.8	43.1

<sup>1</sup> Integral parts of the structure.

<sup>2</sup> In case of concrete embedded steel tubes, the suggested wall thickness is 2-2.5% of the outside diameter of the recess pipe.

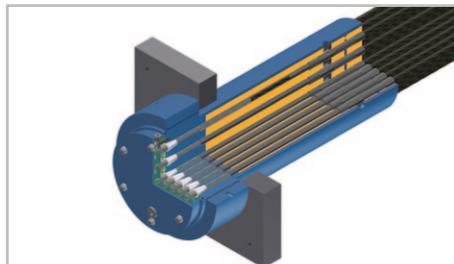
<sup>3</sup> Length of the protection cap (PCL) varies depending on the stressing and de-stressing requirements. Reference values are 60 mm for the dead end and 420 mm for the stressing end of the stay cable.

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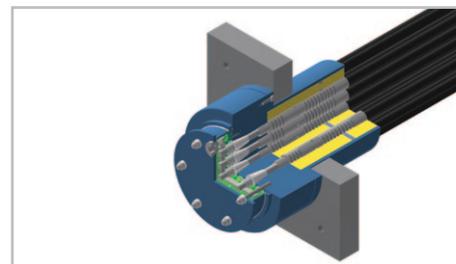
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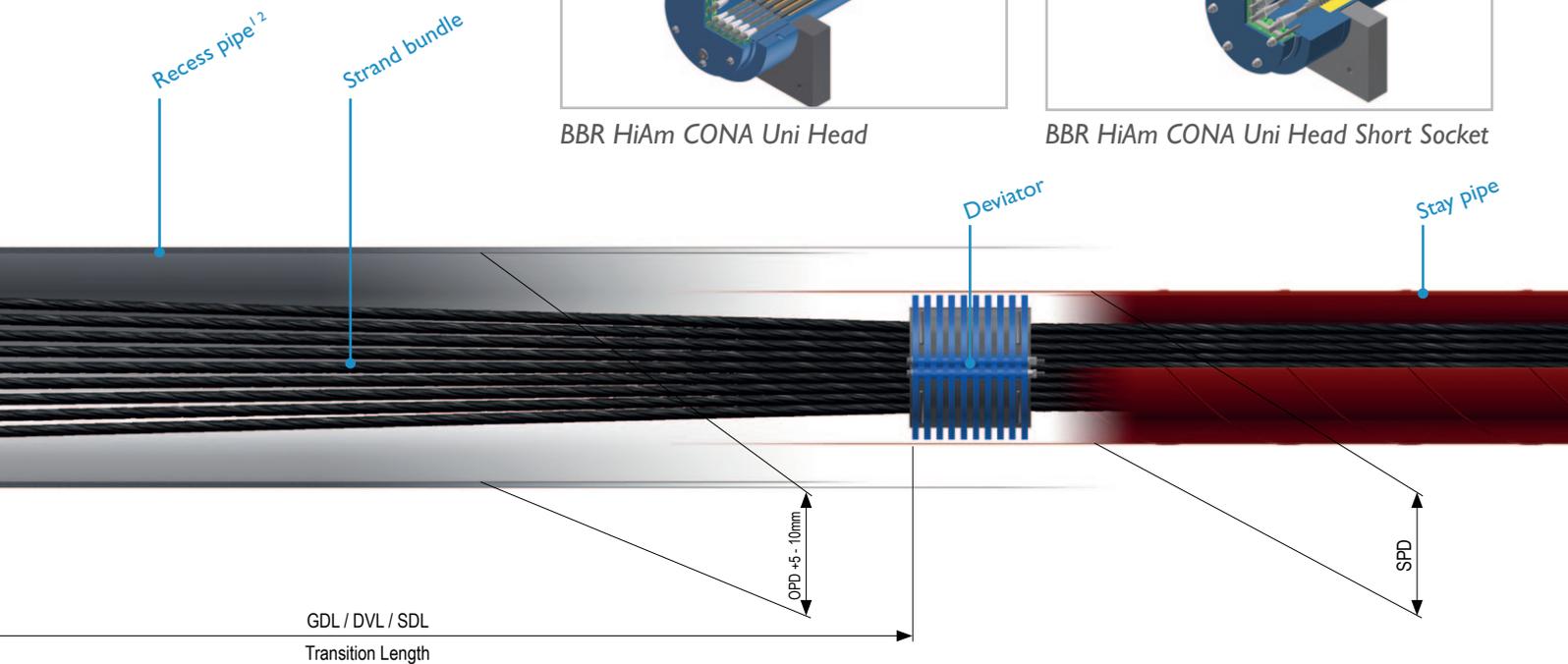
### Non-adjustable (dead-end) anchorage options



BBR HiAm CONA Uni Head



BBR HiAm CONA Uni Head Short Socket



037 06	042 06	043 06	048 06	055 06	061 06	069 06	073 06	075 06	085 06	091 06	097 06	109 06	121 06	127 06	151 06	169 06	185 06	217 06
37	42	43	48	55	61	69	73	75	85	91	97	109	121	127	151	169	185	217
10,323	11,718	11,997	13,392	15,345	17,019	19,251	20,367	20,925	23,715	25,389	27,063	30,411	33,759	35,433	42,129	47,151	51,615	60,543
180	180	200	200	200	225	225	250	250	250	280	280	280	315	315	355	400	400	450
5.6	5.6	6.3	6.3	6.3	7.0	7.0	7.8	7.8	7.8	8.8	8.8	8.8	9.8	9.8	11.1	12.5	12.5	14.1
160	160	160	180	180	200	200	225	225	225	250	250	250	280	280	315	315	355	355
5.0	5.0	5.0	5.6	5.6	6.3	6.3	7.0	7.0	7.0	7.8	7.8	7.8	8.8	8.8	9.8	9.8	11.1	11.1
120	125	125	135	140	150	155	160	165	175	185	185	200	215	230	245	250	255	275
355	375	390	400	425	450	475	490	495	525	545	560	595	625	640	700	755	780	860
735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735	735
140	145	145	155	160	180	185	190	195	205	215	215	230	245	260	280	295	310	330
336	356	367	384	391	423	451	457	468	478	518	532	546	588	603	644	725	739	809
225	225	225	225	225	215	215	215	215	215	215	215	215	215	215	215	215	215	215
1,415	1,515	1,635	1,660	1,705	1,890	1,965	2,060	2,130	2,165	2,360	2,455	2,500	2,630	2,835	2,950	3,305	3,305	3,775
1,605	1,720	1,855	1,880	1,930	2,140	2,230	2,335	2,415	2,455	2,675	2,780	2,830	2,980	3,210	3,340	3,745	3,745	4,280
2,485	2,540	2,600	2,690	2,715	2,885	2,935	2,985	3,090	3,115	3,285	3,285	3,375	3,510	3,685	3,765	4,090	4,090	4,490
296	309	325	330	352	370	392	403	408	433	448	461	488	513	525	573	623	638	713
270	283	295	308	308	334	360	360	372	372	412	424	424	464	476	489	568	568	632
268	282	299	302	310	336	347	360	370	375	402	415	422	441	470	486	536	536	603
51.6	58.2	60.2	66.8	75.9	84.8	95.3	101.7	104.3	118.9	126.8	134.7	152.4	168.1	176.0	210.0	236.9	257.8	303.9

<sup>1</sup> Regulation length (RGL) of the anchorage can be adjusted to any requested value. Reference values are 0 mm, 60 mm or 120 mm.

<sup>5</sup> For Compact Stay Pipes please contact your nearest BBR representative.

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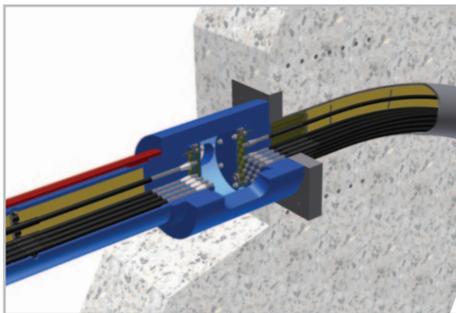
### Features

- Highest capacity, most compact and widest range of anchorages available on the international marketplace
- Cable size up to 217 strands with a breaking strength of over 60,000kN
- Optimised for 15.7mm diameter, 1,860 MPa strand
- System approved and in compliance with the latest *fib* bulletin 30, PTI 6<sup>th</sup> Ed. and CIP (Setra) recommendations
- Excellent fatigue resistance with BBR Benchmark testing above and beyond international standards
- Superior bending fatigue resistance – 2 million cycles with an angular deviation of  $\pm 0.6^\circ$  plus a further 0.25 million cycles at  $\pm 1.4^\circ$
- Outstanding long term fatigue resistance – 50 million cycles at the BBR Benchmark loading criteria
- Highest possible corrosion protection with an advanced fully independent and redundant water tightness system, no compressive force activation required
- Single strand installation and replacement
- Easy inspection and low maintenance
- Compact stay pipe option for ultra long stay cables



For further information download these brochures from our website.

### Compatible technologies



HiEx CONA Saddle



Square Damper



Viscous Damper



Pin Connector



Guide deviator



Standard & Compact stay pipe