ASTEC Active Anchor (AAA)

FRP post-tensioned anchoring solution

Dextra

About Active Anchor (AAA)

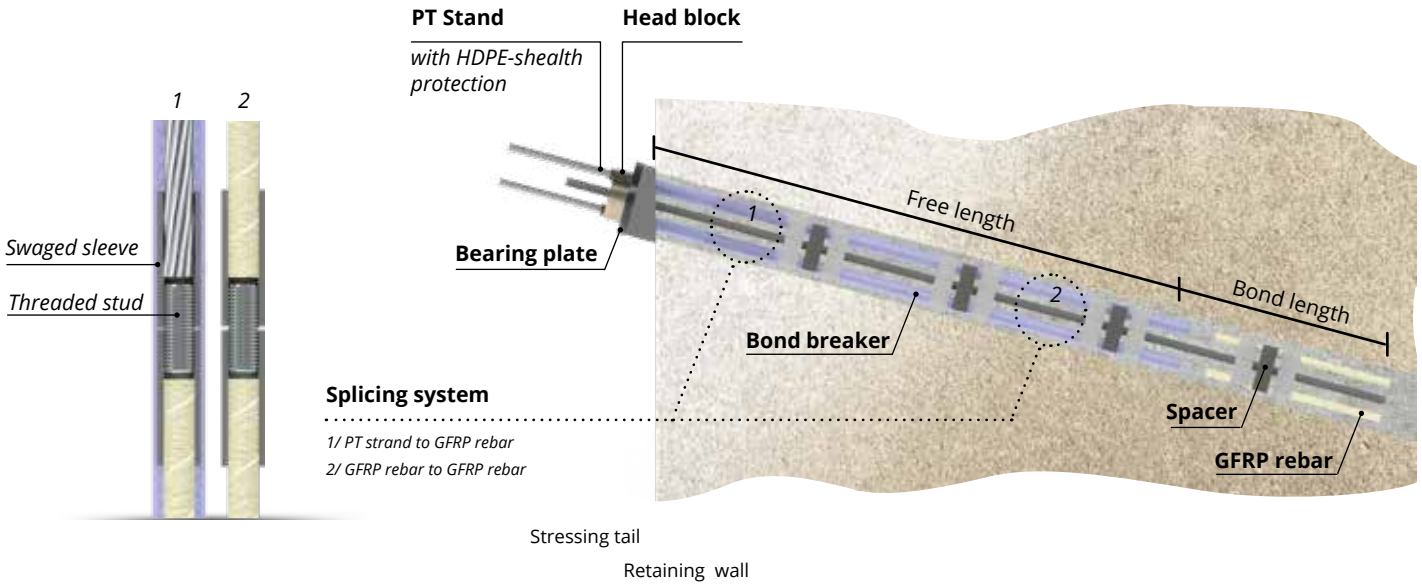
ASTEC Active Anchors (AAA) is an unmatched hybrid GFRP/Steel system, designed as a post-tension anchoring solution for the geotechnical field. For tensioning, a unique connector system makes the interface between a high performance FRP bars and a standard PT strand.

Key benefits

AAA is comprised of multiple tendons which are assembled to provide high mechanical performance:

- Constitutes a geotechnical anchor for temporary and permanent usage that are then left in the ground and that won't present an obstacle to any future construction projects as they can be easily cut through.
- Allows easy and fast future extirpation by common TBM and Pile Boring machines due to its anisotropic fiber characteristics.
- Does not require any additional periodic monitoring and maintenance.
- Nullifies need for extra corrosion protection requirements.
- Minimizes weight to ease handling & installation.

Product design & concept



Standards

CUT - ABILITY

Can be easily cut by common excavation equipment.
Best alternative to steel bolts.

CORROSION FREE

The material is resistant to both acidic and alkali environments.

GHT WEIGHT

FRP profiles are twice as strong as steel in tensile strength, for only 25% of its weight.

Design

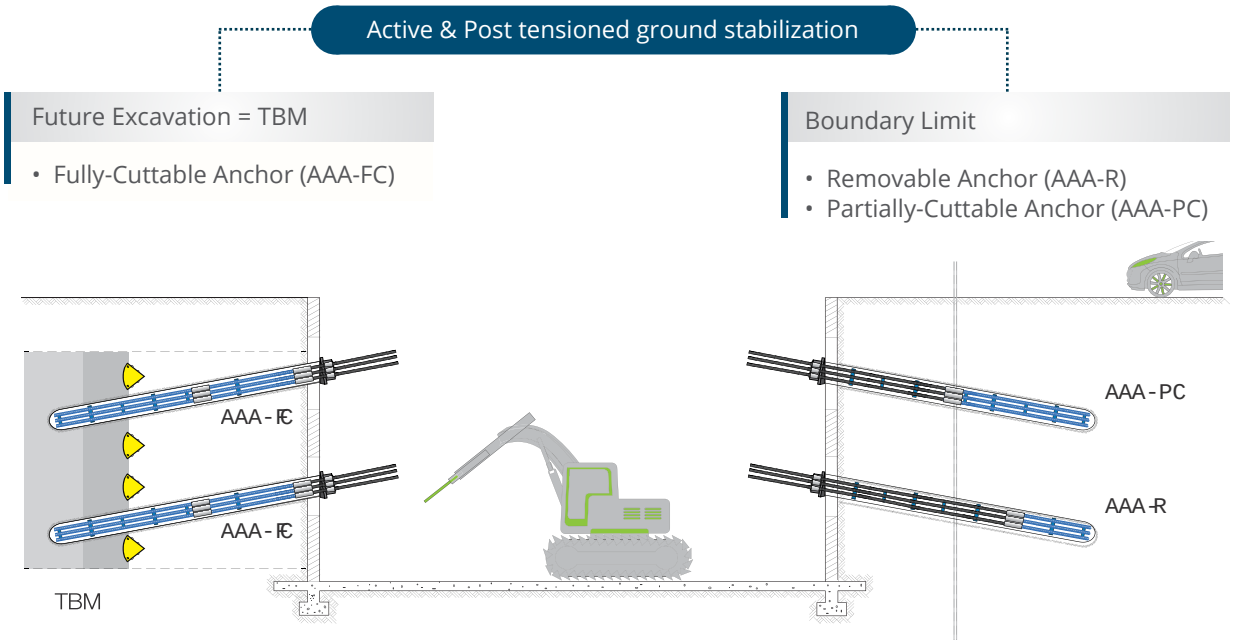
- ACI 440-4R-04
- BS EN 1997 (Eurocode 7)
- BS EN 1537
- BS 8081
- ISO 6934-4

Test

- ACI 440-3R-12

Applications

With its innovative design, the Astec Active Anchor from Dextra provides a unique solution with 3 types of application that can be left in the ground without hindering future excavation requirements:



Material Properties

Material Description	Steel Strand	GFRP Bar	Coupling System
	Y1860 grade in diameter 15.24 mm	ASTEC GR50T in diameter 19 mm"	Couplers onto steel strand & GFRP rods
Characteristic Failure Load (Ftk)	260kN	300 kN	250 kN
Characteristic Yield Load (Ft0.1k)	230kN	/	/
Maximum Proof Load (Pp)	200 kN		
Maxmimum lock-off (Po)	162 kN		

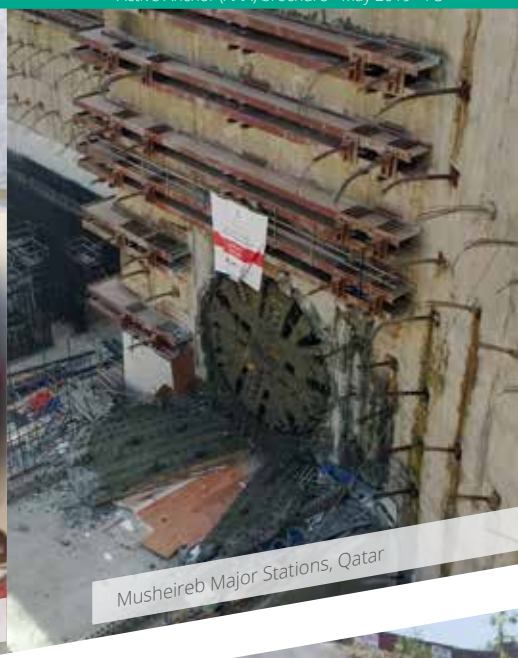
Technical Information

Typical References GFRP Temporary (TB3)	Number of Tendon (N)	Norminal GFRP Cross Sectional Area (A)	Ultimate Tensile Load (Ftk)	Maximum Lock-off Load (Po)	Recommended Drilling Diameter
	(pcs)	(mm^2)	(kN)	(kN)	(mm)
ASTEC TB3-1	1	284	250	162	130
ASTEC TB3-3	3	852	750	486	130
ASTEC TB3-4	4	1136	1000	648	140
ASTEC TB3-5	5	1420	1250	810	150
ASTEC TB3-6	6	1704	1500	972	160
ASTEC TB3-7	7	1988	1750	1134	170
ASTEC TB3-8	8	2272	2000	1296	170
ASTEC TB3-10	10	2840	2500	1620	200
ASTEC TB3-12	12	3408	3000	1944	200
ASTEC TB3-14	14	3976	3500	2268	200

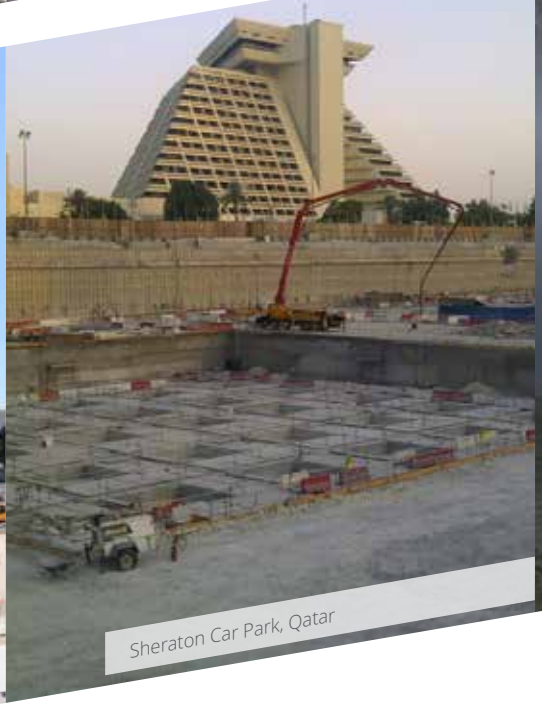
* other sizes can be offered upon request.


Al-Shahad Tower, West Bay, Qatar


Al Sadd C-Ring Station, Qatar


Musheireb Major Stations, Qatar


Grand Paris Express, France


Sheraton Car Park, Qatar


Nagpur Metro, India

Commercial presence
in more than
55 countries

Dextra

HEADQUARTERS
THAILAND
Dextra Manufacturing Co.,Ltd.
Tel: (66) 2 021 3800

CHINA
Dextra Building Products (Guangdong) Co.,Ltd.
Tel: (86) 20 2261 9901

HONG KONG
Dextra Pacific Ltd.
Tel: (852) 2511 8236

EUROPE
Dextra Europe SARL
Tel: (33) 1 45 53 70 82

MIDDLE EAST
Dextra Middle East FZE
Tel: (971) 4886 5620

INDIA
Dextra India Pvt.,Ltd.
Tel: (91) 22 2839 2694

NORTH AMERICA
Dextra America Inc.
Tel: (1) 818 261 5166

LATIN AMERICA
Dextra Latam
Tel: (507) 831 1422

BRAZIL
Dextra do Brasil
Tel: (55) 119 7577 8112