

PRODUCT CATALOGUE

Threaded Bar, Tie Rod & Ground Anchors

High-tensile tie rods, post-tensioning bar, fully threaded bar and self-drilling hollow bar anchor systems for harbours, tunnels, retaining structures and heavy civil works — with the nuts, plates and couplers that complete them.

**M42–
M162**

TIE ROD RANGE

3STEEL
GRADES**1,030
MPa**

UP TO





WHO WE ARE

An engineering-led **manufacturer**

Canco Fasteners has manufactured fixing and fastening components in New Delhi since 1967. Three generations on, we supply anchors, bolts, threaded bar and engineered components to contractors, OEMs and distributors in more than 30 countries.

This catalogue covers the heavy end of that range — the tie rods, thread bar and ground anchor systems used in harbours, tunnels, retaining structures and deep foundations, where the bar is a structural member and the paperwork matters as much as the part.

Everything here can be made to your drawing. Send us the specification, the grade and the load, and **we will manufacture and certify to it.**



In-house manufacturing

Forging, threading, bending and assembly, backed by an audited supply network for heavy processes.

Documented quality

Material test certificates, heat-number traceability and third-party testing on request.

Since 1967

THREE GENERATIONS

30+

COUNTRIES SERVED

10,000+

PRODUCT VARIANTS

100+

WORKFORCE

WHAT THIS CATALOGUE COVERS

Tie rods & thread bar

M42–M162 tie rods in three grades, plus post-tensioning and fully threaded bar.

Ground anchor systems

Self-drilling hollow bar anchors with nuts, plates, couplers and drill bits.

Standard fasteners

DIN 934 nuts, DIN 933 bolts and DIN 7980 spring washers to complete the assembly.

Government-Recognised Star Export House · EEPC Export Excellence Award · ISO 9001:2015

CREDENTIALS



PRODUCT 01

Tie rods

TYPICAL APPLICATIONS

Harbours · wharves · jetties
River embankments
Retaining structures

PRODUCT FEATURES

Grades 355, 500 and 700 N/mm²
Rolled thread for performance
Elongation 15–22% by grade

PRODUCT BENEFITS

Ductile design
Quick installation
Full accessory range

THREAD SIZE	BAR DIA. (MM)	LINEAR WT. (KG/M)	GRADE 355 / 510			GRADE 500 / 660			GRADE 700 / 900		
			YIELD (KN)	ULTIMATE (KN)	EC3 CAP. (KN)	YIELD (KN)	ULTIMATE (KN)	EC3 CAP. (KN)	YIELD (KN)	ULTIMATE (KN)	EC3 CAP. (KN)
M42	40	9.86	398	572	411.6	560	740	532.7	785	1,009	726.4
M45	43	11.40	464	666	479.6	653	862	620.6	914	1,175	846.3
M48	45	12.48	523	751	540.9	737	972	700.0	1,031	1,326	954.6
M52	49	14.80	624	897	645.5	879	1,160	835.3	1,230	1,582	1,139.1
M56	53	17.32	721	1,035	745.4	1,015	1,340	964.7	1,421	1,827	1,315.5
M60	57	20.03	839	1,205	867.3	1,181	1,559	1,122.4	1,653	2,126	1,530.6
M64	61	22.94	950	1,365	982.6	1,338	1,766	1,271.6	1,873	2,408	1,734.0
M68	65	26.04	1,085	1,558	1,121.9	1,528	2,017	1,541.9	2,139	2,750	1,979.8
M72	69	29.35	1,228	1,764	1,270.4	1,730	2,283	1,644.1	2,422	3,114	2,241.9
M78	75	34.67	1,460	2,098	1,510.5	2,057	2,715	1,954.8	2,880	3,702	2,665.6
M83	80	39.45	1,669	2,398	1,726.4	2,351	3,103	2,234.2	3,291	4,231	3,046.6
M88	85	44.54	1,892	2,718	1,956.8	2,664	3,517	2,532.3	3,730	4,796	3,453.1
M93	90	49.93	2,128	3,058	2,201.5	2,998	3,957	2,849.1	4,197	5,396	3,885.1
M98	95	55.63	2,379	3,418	2,460.7	3,351	4,423	3,184.5	4,691	6,031	4,342.5
M103	100	61.64	2,643	3,798	2,734.3	3,723	4,915	3,538.6	5,213	6,702	4,825.3
M108	105	67.96	2,922	4,198	3,022.4	4,115	5,432	3,911.3	5,762	7,408	5,333.6
M113	110	74.59	3,214	4,618	3,324.8	4,527	5,976	4,302.7	6,338	8,149	5,867.3
M118	115	81.52	3,521	5,058	3,641.7	4,959	6,546	4,712.8	6,942	8,926	6,426.5
M123	120	88.76	3,841	5,518	3,973.0	5,410	7,141	5,141.5	7,574	9,738	7,011.1
M128	125	96.32	4,175	5,998	4,318.7	5,881	7,762	5,588.9	8,233	10,585	7,621.2
M133	130	104.18	4,523	6,498	4,678.8	6,371	8,410	6,054.9	8,919	11,468	8,256.7
M143	140	120.82	5,261	7,559	5,442.3	7,411	9,782	7,043.0	10,375	13,339	9,604.1
M153	150	138.69	6,055	8,699	6,263.5	8,529	11,258	8,105.7	11,940	15,352	11,053.2
M162	160	157.80	6,818	9,794	7,051.9	9,602	12,675	9,126.0	13,443	17,284	12,444.5

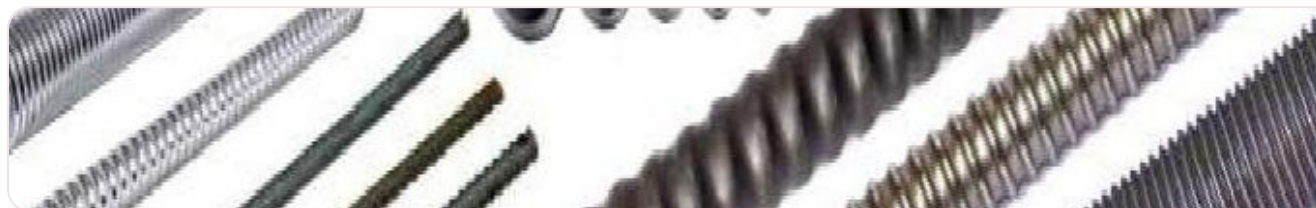
Yield and ultimate loads are characteristic values. Tension capacity is calculated in accordance with EC3. Minimum elongation: grade 355 — 18–22%; grade 500 — 17%; grade 700 — 15%. Confirm the design value with your structural engineer before ordering.

PRODUCT 02

High-strength thread bar

Post-tensioning bar for post-tensioning, geotechnical work, formwork, ground anchors, soil nailing, tunnelling and mining. Left-hand thread, hot-dip galvanising and anti-rust processing all available.

BAR (MM)	DH (MM)	SV (MM)	H (MM)	B (MM)	I (MM)	R (MM)	THREAD ANGLE
15	15	15.0	1.2	4.0	10.0	1.0	80°42'
20	20	20.0	1.3	4.8	10.0	1.2	80°42'
25	25	25.0	1.6	6.0	12.0	1.5	81°19'
32	32	32.0	2.0	7.0	16.0	2.0	80°40'
36	36	36.0	2.2	8.0	18.0	2.5	81°50'
40	40	40.0	2.5	8.0	20.0	2.5	80°29'
50	50	50.0	3.0	9.0	24.0	2.5	81°19'
63.5	63.5	63.5	3.0	12.0	22.0	2.5	84°10'



Tolerances: DH ± 0.3 to ± 0.5 mm · SV $+0.4$ / -0.8 to -1.2 mm · H ± 0.3 to ± 0.6 mm · B ± 0.5 mm · I ± 0.2 to ± 0.4 mm.

● FULL HEX & SPHERICAL HEX NUT

Full hex and spherical hex nuts are the standard anchorage. A lock nut, shorter and thinner than a normal hex nut, is used at the tensioning end.

BAR Ø	S (MM)	H (MM)	D (MM)	LOAD (KN)	WEIGHT (KG)
20	32	45	37	560	0.17
25	50	60	55	590	0.70
32	65	72	75	835	1.40
36	65	80	77	960	1.45
40	70	100	81	1,050	2.12
50	80	120	88	—	3.10

● BEARING PLATE

Bearing plates spread the anchorage load into the structure. Plain and spherically seated versions are available to suit bar alignment.

BAR Ø	A (MM)	H (MM)	MATERIAL	WEIGHT (KG)
20	100	30	Q235	2.2
25	150	35	Q235	5.9
32	180	40	Q235	9.6
36	200	45	Q235	13.4
40	220	50	Q235	18.0
50	240	55	Q235	23.6

Bar, nut, plate and coupler supplied as a matched set, so nothing on site is a mismatch.

MATCHED SETS

PRODUCT 03

Fully threaded bar & thread rod

NOMINAL DIA. (MM)	AREA (MM ²)	LINEAR WT. (KG/M)	GR 525/575		GR 835/1035		GR 935/1085	
			YIELD	ULT.	YIELD	ULT.	YIELD	ULT.
25	491	4.10	270	375	405	500	450	520
32	804	6.65	440	620	660	820	740	860
36	1,018	8.41	560	780	840	1,040	940	1,090
40	1,257	10.34	690	960	1,040	1,290	1,160	1,350
50	1,964	16.28	1,080	1,500	1,600	2,010	1,820	2,110

Loads in kN. Minimum elongation 6% in all three grades. Higher grades and larger sizes available on request.

Product features

- ✓ Three grades for passive and active anchors
- ✓ Diameter range 25–50 mm
- ✓ Continuous cold-rolled or hot-rolled thread
- ✓ Left-hand or right-hand thread available

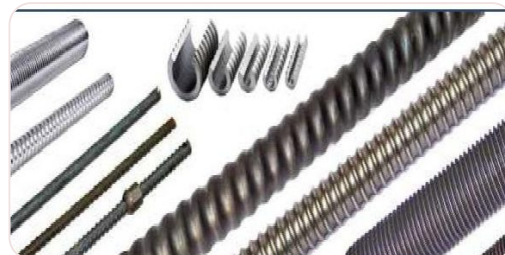
Typical applications

- ✓ Excavation tie-back anchoring
- ✓ Slope stabilisation · tunnelling
- ✓ Tension piles · mining
- ✓ Structural repair

High-grade steel reduces bar diameter for a given load — easier handling and a **smaller bore hole**. The continuous thread lets you make a connection at any point along the bar, and increases bond.

● THREAD ROD DIN 976

DIA.	PITCH (MM)	KG/M	DIA.	PITCH (MM)	KG/M
M2	0.4	0.019	M20	1.5 / 2.5	2.080
M2.5	0.45	0.030	M22	1.5 / 2.5	2.540
M3	0.50	0.044	M24	2.0 / 3.0	3.000
M3.5	0.60	0.060	M25	2.0 / 3.0	3.260
M4	0.70	0.078	M27	2.0 / 3.0	3.850
M5	0.80	0.124	M30	2 / 3.5	4.750
M6	1.00	0.177	M32	2 / 3.5	5.500
M8	1 / 1.25	0.319	M36	3 / 4.0	6.900
M10	1 / 1.25 / 1.5	0.500	M39	3 / 4.0	8.200
M12	1.25 / 1.5 / 1.75	0.725	M42	3 / 4.5	9.400
M14	1.5 / 2	0.970	M45	3 / 4.5	11.000
M16	1.5 / 2	1.330	M48	3 / 5.0	12.400
M18	1.5 / 2.5	1.650	M52	3 / 5.0	12.700



PRODUCT 04

Self-drilling hollow bar anchors

A hollow threaded bar with a sacrificial drill bit that drills, anchors and grouts in a single operation. Air and water pass freely through the bar during drilling to remove debris; grout is then injected immediately, filling the bar and covering it completely. Couplers join hollow bars to extend the bolt, and nuts and plates provide the required tension.

Product features

- ✓ Three functions in one — drilling rod, anchor bar and grouting pipe
- ✓ Suitable for permanent and temporary applications
- ✓ Optimum bonding and load transfer
- ✓ Complete solution including plates and bolts
- ✓ Splicing system to adjust to custom lengths
- ✓ Sacrificial drill bits for every ground condition

Benefits & corrosion protection

- ✓ Flexible installation — core injection suits all ground conditions
- ✓ Safe: visual control of full encapsulation
- ✓ One-step installation: drilling, placing and grouting
- ✓ No cased borehole, preserving the ground
- ✓ Temporary work — protection by encapsulation in grout
- ✓ Permanent work — hot-dip galvanised to EN ISO 1461, epoxy coated, or supplied with a sacrificial thickness

ANCHOR RODS

PROPERTY	UNIT	R25N	R32L	R32N	R32S	R38N	R51L	R51N	T76N	T76S
Outer diameter	mm	25.00	32.00	32.00	32.00	38.00	51.00	51.00	76.00	76.00
Inner diameter	mm	14.00	22	20	18.5	22.00	36.00	33.00	51.00	47.00
Ultimate load	kN	200	260	280	360	500	550	800	1600	1900
Yield load	kN	150	200	230	280	400	450	630	1200	1500

ANCHOR NUTS

PROPERTY	UNIT	R25N	R32L	R32N	R32S	R38N	R51L	R51N	T76N	T76S
Key size	mm	41	46	46	46	50	75	75	100	100
Length	mm	35	45	45	65	60	70	70	80	80

ANCHOR COUPLERS

PROPERTY	UNIT	R25N	R32L	R32N	R32S	R38N	R51L	R51N	T76N	T76S
Outer dimension	mm	36	42	42	42	52	63	63	95	95
Length	mm	150	145	160	190	220	140	200	200	220

ANCHOR PLATES

PROPERTY	UNIT	R25N	R32L	R32N	R32S	R38N	R51L	R51N	T76N	T76S
Dimension	mm	150×150	200×200	200×200	200×200	200×200	200×200	250×250	250×250	250×250
Thickness	mm	8	10	10	12	12	30	40	40	40
Hole diameter	mm	30	35	35	35	41	60	60	80	80

Drill bits supplied to suit the geology of the project site — cross, clay, button and carbide types. Confirm bit selection with our technical team against the ground investigation report.



PRODUCT 05

Domed nuts & couplers

● DOMED NUT

A protective domed nut for the exposed end of a tie rod or thread bar, covering the thread and finishing the anchorage neatly.

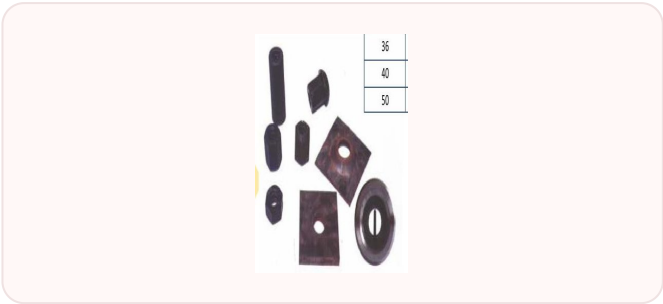


DIA.	SW	SL	D1	D2	L1	L2
18 mm	36	42	50	30	55	15
25 mm	50	58	72	38	75	22
32 mm	60	69	80	45	90	28
36 mm	65	75	90	50	100	30
40 mm	70	81	100	55	115	32
50 mm	85	98	120	64	145	36

All dimensions in mm.

● COUPLERS

Couplers connect thread bar to increase length where the project requires it, developing the full capacity of the bar across the joint.



BAR Ø (MM)	OUTER Ø (MM)	LENGTH (MM)	WEIGHT (KG)
15	38	110	0.8
20	38	110	0.7
25	50	132	1.35
32	60	168	2.4
36	70	200	3.6
40	75	220	5.2
50	90	290	9.64

Supplied plain or hot-dip galvanised to match the bar.

Nuts, plates, couplers and domed ends supplied with the bar, cut and kitted to your anchorage schedule.

KITTED TO ORDER

STANDARD FASTENERS

Nuts, bolts & washers

Supplied alongside the bar systems to complete the assembly, in mild steel, stainless and hot-dip galvanised finishes. All dimensions in mm.



● HEXAGON NUT — DIN 934

THREAD SIZE	M2	M3	M4	M5	M6	M8	M10	M12	M16
Pitch	0.4	0.5	0.7	0.8	1	1.25	1.5	1.75	2
m	1.6	2.4	3.2	4	5	6.5	8	10	13
e	4.32	6.01	7.68	8.79	11.05	14.38	18.90	21.10	26.75
s	4	5.5	7	8	10	13	17	19	24

THREAD SIZE	M20	M24	M30	M36	M42	M48	M56
Pitch	2.5	3	3.5	4	4.5	5	5.5
m	16	19	24	29	34	38	45
e	32.95	39.55	50.85	60.79	71.30	82.60	93.56
s	30	36	46	55	65	75	85



● HEXAGON HEAD BOLT — DIN 933

THREAD SIZE	M4	M5	M6	M8	M10	M12	M14
Pitch	0.7	0.8	1	1.25	1.5	1.75	2
k	2.8	3.5	4	5.3	6.4	7.5	8.8
e — Grade A	7.66	8.79	11.05	14.38	18.90	21.10	24.49
e — Grade B	—	8.63	10.89	14.20	18.72	20.88	23.91
s	7	8	10	13	17	19	22
Length range	8–40	8–40	8–50	12–60	16–60	20–80	25–80

THREAD SIZE	M16	M18	M20	M22	M24	M27	M30
Pitch	2	2.5	2.5	2.5	3	3	3.5
k	10	11.5	12.5	14	15	17	18.7
e — Grade A	26.75	30.14	33.53	35.72	39.98	45.20	50.85
e — Grade B	26.17	29.56	32.95	35.03	39.55	45.20	50.85
s	24	27	30	32	36	41	46
Length range	30–100	30–100	40–100	50–100	50–100	60–100	70–100



● SPRING WASHER — DIN 7980

D	M3	M4	M5	M6	M8	M10	M12	M14
d1 min.	3.6	4.1	5.1	6.1	8.1	10.2	12.2	14.2
d2 max.	5.6	7.0	8.8	9.9	12.7	16.0	18.0	21.1
s	1.0	1.2	1.6	1.6	2.0	2.5	2.5	3.0

D	M16	M18	M20	M22	M24	M27	M30	M36
d1 min.	16.2	18.2	20.2	22.5	24.5	27.5	30.5	36.5
d2 max.	24.4	26.4	30.6	32.9	35.9	38.9	44.1	52.2
s	3.5	3.5	4.5	4.5	5.0	5.0	6.0	7.0

DIN 933 "e" values are given for product grades A and B. Other grades, finishes and non-standard lengths manufactured to order.



GET IN TOUCH

Send us the bar schedule

Tie rods, thread bar and ground anchor systems, cut, coupled and certified to your anchorage schedule. Tell us the grade, the load and the lengths — we will manufacture to it.

GENERAL ENQUIRIES

+91-11-4252 5500

info@cancofasteners.com

EXPORT SALES

+91-98110 63537

sales7@cancofasteners.com

DOMESTIC SALES

+91-99990 33330

sales8@cancofasteners.com

MANAGEMENT

+91-97170 05153

vasu@cancofasteners.com

OFFICE

B-6/2, DDA Commercial Complex

Safdarjung Enclave, New Delhi – 110029

FACTORY

A-63/2, G.T. Karnal Road Industrial Area

Azadpur, New Delhi – 110033