

NATIONAL CUTTING TOOLS



An ISO 9001:2000 Certified Co.



Upset parallel threaded couplers are suited to projects which require high volumes of couplers. They produce a full strength joint in the rebar connection. The ends of the bars to be joined are cut square and enlarged by cold forging to increase their core diameter and so ensure that the joint is stronger than the bar. The couplers are usually supplied attached to the reinforcing bar.



PARALLEL THREAD MECHANISM

A3 Steps Procedure

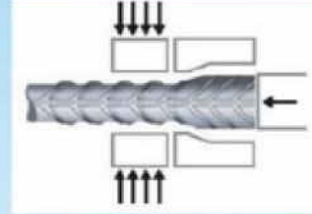
1) Cutting

The end of the reinforcement bars is sawn square.



2) Cold Forging

With the help of patented cold forging, the sawn end of the reinforcing bar is then enlarged. With this the core diameter of the bar is increased to pre determined diameter.



3) Threading

An ISO standard metric thread is then cut.

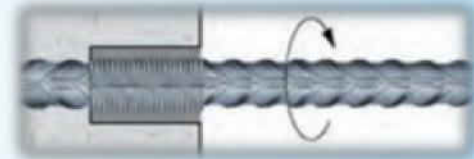


Splicing Methods:

No Torque Wrenching Required

Standard Splice

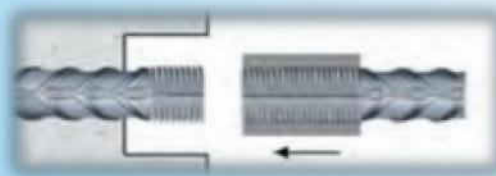
Easy connection by bar rotation until full thread engagement, no risk of thread mis-match & no risk of cross-threading.



A

Position Splice

The NCT system uses a standard NCT coupler when both the bars cannot be turned. Thus the coupler gets fully engaged & the assembly is completed by butting the bars end to end & screwing back the coupler onto the first bar until full engagement.



B

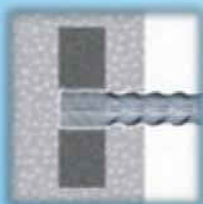


C



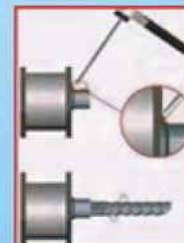
Mechanical Anchorages

The circular NCT standard anchorage heads have a net bearing area of 4 times to 9 times the cross section of the bar, but cannot be specified in other dimensions to fit the application requirement



Weldable Couplers

A weldable coupler is welded onto a steel member for concrete & steel composite. The assembly is completed by rotating the bar inside the coupler until full engagement.



Product Features

NCT is a parallel threading mechanical splicing system designed for the connection of concrete reinforcing bars Φ 12 to 56mm.

Designed & manufactured in compliance with ACI 318, BS 8110, USBC 1997, IBC 2006, DIN 1045, CalTrans, ACI 349, ASME Sec III Div 2.

RE-BAR THREADING MACHINE
12MM TO 56MM CAPACITY



Benefits Of NCT Rebar Couplers

- Provides continuity of reinforcing bars.
- No reduction of the bar cross section area.
- Full Tension Splice: Bar Break under tensile load.
- Allows full ductile elongation of bars.
- Manufactured under strict quality assurance plan ISO 9001.
- Full traceability of material origin & production batch.



We Make Your Construction Easier

- Practical alternative to lap splicing.
- Solves bar congestion problems.
- No staggering of splice bars required.
- Reduces Steel Wastage.
- Enables multiple re-use of formworks.
- Easy Installation.



GENERAL SPECIFICATIONS

- Couplers are individually marked to allow full traceability of the material.
- Tensile failure guaranteed to occur away from the joint.
- No reduction of the ductility of the reinforcing bar.
- No reduction of the nominal cross section area of the parent.
- Parallel thread system.



NCT Rebar Coupler Dimension In Millimeters:

Size	Thread	Outer Diameter (mm)	Length (mm)	MM Pitch	Weight(Kg)
12	M16	20	30	2	0.062
16	M20	26	42	2	0.082
18	M22	29	45	2.5	0.114
20	M24	32	48	2.5	0.153
22	M27	36	54	3	0.207
25	M30	40	65	3	0.303
28	M32	44	70	3	0.398
32	M36	50	78	4	0.608
36	M39	60	88	4	0.875
40	M45	62	95	4.5	1.138

Cost Benefits

- Cost of Steel Reinforcement – Rs. 40,000 per M.T (F.O.R)
- Labour Fixing Cost – Rs. 3,500 per M.T
- Overlapping Steel Lap Length – Rs. 40D
- Assuming Wastage of Steel – 5%

A) Direct Savings

a) Saving in overlapping Costs

The Following is the cost of steel required for 1 joint

REBAR DIA (MM)	LAP LENGTH (MM)	SEC. WT (KG/METER)	TOTAL WT (KG)	COST RS (@ Rs. 3.5 KG)
40	1600	9.86	15.78	631
36	1440	7.99	11.51	460
32	1280	6.31	8.08	323
25	1000	3.86	3.86	154
20	800	2.47	1.98	79

B) Saving In Labour Cost Of Fixing

Steel saving by using due to reduction in lap length result in less steel & consequently less labour.

REBAR DIA (MM)	LAP LENGTH (MM)	SEC. WT (KG/METER)	TOTAL WT (KG)	COST RS (@ Rs. 3.5 KG)
40	1600	9.86	15.78	55
36	1440	7.99	11.51	40
32	1280	6.31	8.08	28
25	1000	3.86	3.86	14
20	800	2.47	1.98	7

C) Savings In Wastage

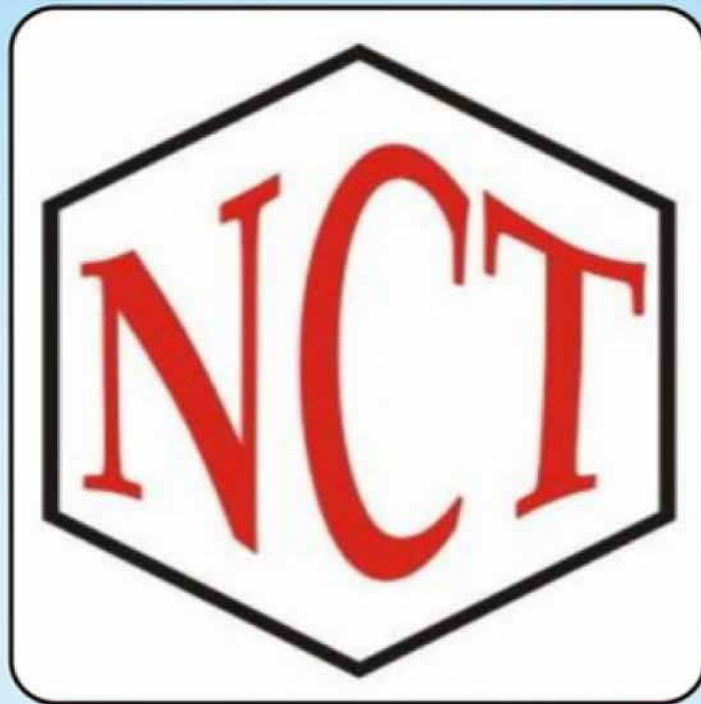
Couplers contribute greatly to reduced wastage in steel because

1) They allow using of all length of bar end to end regardless of dimension

REBAR DIA (MM)	LAPS PER TON	REBAR COST PER TON	WASTAGE 5%	SAVING PER COUPLER
40	17	40,000	2000	118
36	20	40,000	2000	100
32	26	40,000	2000	77
25	40	40,000	2000	50
20	67	40,000	2000	30

D) Total Savings

REBAR DIA (MM)	OVERLAP COST	LABOUR FIXING	WASTAGE 5%	TOTAL COST	COUPLER COST	NET SAVING PER LAP
40	631	55	118	804	340	464
36	460	40	100	600	310	290
32	323	28	77	428	210	218
25	154	14	50	218	140	78
20	79	7	30	116	95	21



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