



**优钻地质材料供应有限公司**  
**PRE-MAT DRILLING SUPPLIES PTE LTD**

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**TRICONE ROLLER BIT – ORIGIN USA**  
**(STEEL TOOTH- OPEN BEARING BIT)**

**IADC 1-2-1**

**SOFT TO MEDIUM FORMATIONS**

This bit model is designed with long ‘A’ shaped teeth, widely spaced and fully hardfaced from crest to root for maximum penetration rates in formations that range from moderately soft to medium soft. This design is most effective in formations with compressive strengths under 5,000, such as shale, clay, red bed, medium limestone and unconsolidated formations. The bit also features the absence of deletions on the gage side of teeth on the heel row of the number two cone. This insures maximum gage life along with tooth life in more abrasive formations. Effective operating weights are from 1,000 to 3,000 pounds per inch of bit diameter with corresponding rotary speeds of 200 to 50 RPM.



**IADC 2-1-1**

**MEDIUM TO MEDIUM HARD FORMATIONS**

This bit offers the combination action of chipping, crushing, and gouging / scraping provided because of reduced cutter offset. The teeth are shorter ‘A’ shaped and more closely spaced teeth than those of bits designed for softer formations. Long crests in the outer row teeth have self-sharpening hardfacing applied for maximum penetration and longer bit life. This design will most economically drill medium and medium hard formations and was designed to replace the softer formation bits in strata where shale alternates with streaks of limestone and sandstone or where gypsum tends to ball up between the teeth. The most effective weight range varies from 1,000 to 5,000 pounds per inch of bit diameter, while rotary speeds of 150 to 50 RPM give best performance. Rotary speed should be decreased as weight as increased.



**IADC 3-1-1**

**Hard Formations**

The bits operates best in hard, abrasive formations such as hard sandy limestone, limestone interspersed with cherty streaks, broken shale, dolomite, granite, and abrasive sand. This bit is especially constructed to withstand the stresses imposed in drilling hard formations under heavy weights. The gage teeth are hard faced with tungsten carbide. There are no interruptions on the heel row teeth and the inner row teeth are short and closely spaced for maximum strength. Other features include balanced bearing design and extra thick cone shells. The most economical bit performance is obtained with weights of 3,000 to 8,000 pounds per inch of bit diameter. Corresponding rotary speed should range between 100 and 40 RPM. It is a recommended practice that the rotation speed should decrease when increasing drilling weight.





## TRICONE ROLLER BIT – ORIGIN USA (TUNGSTEN CARBIDE INSERT – SEALED ROLLER BEARING BIT)



BIT TYPE	WEIGHT ON BIT (LBS/IN OF DIA)	ROTARY SPEED (REV/MIN)	BIT TYPE	WEIGHT ON BIT (LBS/IN OF DIA)	ROTARY SPEED (REV/MIN)
IADC 437	2000-4500	60-120	IADC 117	1500-5000	80-180
IADC 517	2500-5000	50-110	IADC 126	2000-6000	70-160
IADC 527	2500-5000	50-100	IADC 135	2500-5500	60-160
IADC 537	3000-5000	40-90	IADC 214	2500-6500	50-140
IADC 615	3500-5500	40-75	IADC 216	2500-7000	50-120
IADC 617	3000-5500	50-80	IADC 316	4000-7500	40-80
IADC 625	3000-6000	40-80	IADC 317	4000-7500	40-80
IADC 627	4000-7000	40-70			
IADC 637	3500-6500	40-70			
IADC 737	4000-7000	40-60			

Tungsten Carbide Insert (TCI) Tricone Roller Bits are designed for efficient drilling hard ground where as the Steel Tooth Tricone Roller Bits do not achieve the desired drilling output productivity depth.

- Soft to Medium profile (all chisel shaped inserts) bit is for shale, red bed, limestone and other strata of low compressive strength with hard streaks of abrasive properties.
- Medium Soft profile (all conical shaped inserts) bit is for shale, sandstone and alluvial deposits.
- Medium Hard profile (Gage rows conical inserts) bit is for hard, sandy limestone, shale, dolomite and limestone with cherty streaks.
- Hard profile (Gage rows with chisel shaped inserts) bit is for quartzite, granite cherty iron ores, and copper porphyry.

### Specifications:

STEEL TOOTH (ST)				
Diameter		Pin Size	Approx. WT	
inch	mm		lbs.	kg
2 <sup>7</sup> / <sub>8</sub>	73	N Rod	4	1.8
2 <sup>15</sup> / <sub>16</sub>	75	N Rod	4	1.8
3	76	N Rod	4	1.8
3 <sup>1</sup> / <sub>8</sub> - 3 <sup>1</sup> / <sub>4</sub>	79 - 82	N Rod	4 <sup>1</sup> / <sub>4</sub>	1.9
3 <sup>1</sup> / <sub>2</sub> - 3 <sup>5</sup> / <sub>8</sub>	89 - 92	2 <sup>3</sup> / <sub>8</sub>	9	4.1
3 <sup>3</sup> / <sub>4</sub>	95	2 <sup>3</sup> / <sub>8</sub>	9	4.1
3 <sup>7</sup> / <sub>8</sub> - 4 <sup>1</sup> / <sub>8</sub>	98 - 105	2 <sup>3</sup> / <sub>8</sub>	9	4.1
4 <sup>1</sup> / <sub>4</sub>	108	2 <sup>3</sup> / <sub>8</sub>	10	4.5
4 <sup>1</sup> / <sub>2</sub>	114	2 <sup>7</sup> / <sub>8</sub>	11	5
4 <sup>5</sup> / <sub>8</sub>	117	2 <sup>7</sup> / <sub>8</sub>	11	5
4 <sup>3</sup> / <sub>4</sub>	121	2 <sup>7</sup> / <sub>8</sub>	16	7.3
4 <sup>7</sup> / <sub>8</sub> - 5	123 - 127	2 <sup>7</sup> / <sub>8</sub>	16	7.3
5 <sup>1</sup> / <sub>8</sub> - 5 <sup>1</sup> / <sub>4</sub>	130 - 133	2 <sup>7</sup> / <sub>8</sub>	17	7.7
5 <sup>1</sup> / <sub>2</sub>	140	2 <sup>7</sup> / <sub>8</sub>	17	7.7
5 <sup>5</sup> / <sub>8</sub>	143	3 <sup>1</sup> / <sub>2</sub>	22	10
5 <sup>3</sup> / <sub>4</sub>	146	3 <sup>1</sup> / <sub>2</sub>	22	10
5 <sup>7</sup> / <sub>8</sub>	149	3 <sup>1</sup> / <sub>2</sub>	22	10
6	152	3 <sup>1</sup> / <sub>2</sub>	26	11.8
6 <sup>1</sup> / <sub>8</sub>	156	3 <sup>1</sup> / <sub>2</sub>	26	11.8
6 <sup>1</sup> / <sub>4</sub>	159	3 <sup>1</sup> / <sub>2</sub>	29	13.2
6 <sup>1</sup> / <sub>2</sub> - 6 <sup>5</sup> / <sub>8</sub>	165 - 168	3 <sup>1</sup> / <sub>2</sub>	29	13.2
6 <sup>3</sup> / <sub>4</sub>	171	3 <sup>1</sup> / <sub>2</sub>	33	15
7 <sup>3</sup> / <sub>8</sub>	187	3 <sup>1</sup> / <sub>2</sub>	62	28
7 <sup>7</sup> / <sub>8</sub>	200	4 <sup>1</sup> / <sub>2</sub>	62	28
8 <sup>1</sup> / <sub>2</sub>	216	4 <sup>1</sup> / <sub>2</sub>	75	34
8 <sup>3</sup> / <sub>4</sub>	222	4 <sup>1</sup> / <sub>2</sub>	75	34
9	228	4 <sup>1</sup> / <sub>2</sub>	75	34
9 <sup>7</sup> / <sub>8</sub>	251	6 <sup>5</sup> / <sub>8</sub>	116	52
10 <sup>5</sup> / <sub>8</sub>	270	6 <sup>5</sup> / <sub>8</sub>	131	59
12 <sup>1</sup> / <sub>4</sub>	311	6 <sup>5</sup> / <sub>8</sub>	180	82
13 <sup>3</sup> / <sub>4</sub>	349	6 <sup>5</sup> / <sub>8</sub>	292	133
14 <sup>3</sup> / <sub>4</sub> - 15	375 - 381	6 <sup>5</sup> / <sub>8</sub> or 7 <sup>5</sup> / <sub>8</sub>	336	152
17 <sup>1</sup> / <sub>2</sub>	445	6 <sup>5</sup> / <sub>8</sub> or 7 <sup>5</sup> / <sub>8</sub>	450	204
20	508	7 <sup>5</sup> / <sub>8</sub>	647	293
22	559	7 <sup>5</sup> / <sub>8</sub>	891	404
24	610	7 <sup>5</sup> / <sub>8</sub>	1125	510
26	660	7 <sup>5</sup> / <sub>8</sub> or 8 <sup>5</sup> / <sub>8</sub>	1300	589
28	670	7 <sup>5</sup> / <sub>8</sub> or 8 <sup>5</sup> / <sub>8</sub>	1300	589
36	914	8 <sup>5</sup> / <sub>8</sub>	3770	1710

TUNGSTEN CARBIDE INSERT (TCI)				
Diameter		Pin Size	Approx. WT	
inch	mm		lbs.	kg
2 <sup>15</sup> / <sub>16</sub> - 3	75 - 76	N rod	8	3.6
3 <sup>1</sup> / <sub>2</sub>	89	2 <sup>3</sup> / <sub>8</sub>	9	4.1
3 <sup>3</sup> / <sub>8</sub>	98	2 <sup>3</sup> / <sub>8</sub>	10	4.5
4	101	2 <sup>3</sup> / <sub>8</sub>	10	4.5
4 <sup>1</sup> / <sub>8</sub>	105	2 <sup>3</sup> / <sub>8</sub>	10	4.5
4 <sup>1</sup> / <sub>2</sub>	114	2 <sup>3</sup> / <sub>8</sub>	12	5.4
4 <sup>3</sup> / <sub>4</sub>	121	2 <sup>7</sup> / <sub>8</sub>	15	6.8
4 <sup>7</sup> / <sub>8</sub>	123	2 <sup>7</sup> / <sub>8</sub>	15	6.8
5 <sup>1</sup> / <sub>8</sub>	130	2 <sup>7</sup> / <sub>8</sub>	17	7.7
5 <sup>1</sup> / <sub>4</sub>	133	2 <sup>7</sup> / <sub>8</sub>	17	7.7
5 <sup>5</sup> / <sub>8</sub>	143	3 <sup>1</sup> / <sub>2</sub>	27	12.2
5 <sup>7</sup> / <sub>8</sub>	149	3 <sup>1</sup> / <sub>2</sub>	27	12.2
6	152	3 <sup>1</sup> / <sub>2</sub>	36	16.3
6 <sup>1</sup> / <sub>8</sub>	156	3 <sup>1</sup> / <sub>2</sub>	39	17.7
6 <sup>1</sup> / <sub>4</sub>	159	3 <sup>1</sup> / <sub>2</sub>	36	16.3
6 <sup>3</sup> / <sub>4</sub>	171	3 <sup>1</sup> / <sub>2</sub>	46	20.9
7 <sup>3</sup> / <sub>8</sub>	187	3 <sup>1</sup> / <sub>2</sub>	58	26.5
7 <sup>7</sup> / <sub>8</sub>	200	4 <sup>1</sup> / <sub>2</sub>	76	34.5
9	229	4 <sup>1</sup> / <sub>2</sub>	94	42.5
9 <sup>7</sup> / <sub>8</sub>	251	6 <sup>5</sup> / <sub>8</sub>	145	65.8
10 <sup>3</sup> / <sub>8</sub>	270	6 <sup>5</sup> / <sub>8</sub>	157	71.2
11	279	6 <sup>5</sup> / <sub>8</sub>	190	86



## **RECONDITIONED TRICONE ROLLER BITS**

Reconditioned Tricone Roller Bits are ideal for water well and foundation drilling, plus many other applications where premium quality bits are required at a very much cheaper cost.

Large diameter RECONDITIONED ROTARY BITS are ideal for top hole applications. Standard size RECONDITIONED ROTARY BITS are suitable for deep hole drilling. Many of our RECONDITIONED ROTARY BITS feature sealed or journal bearings for extended drilling life.

Our RECONDITIONED Tricone Roller Bits are being salvaged from Middle East and Houston oil producing sites. With our vast experience from our USA factory, these bits are carefully selected, sorted according to the manufacturer's serial number identifying the bearing type, clean and refurbished the carbides. We put these bits into two categories for various budget demands.

### **OIL FIELD QUALITY (Blue Coded)**

Featured with Sealed or Journal Bearings, bits are manufactured in USA.

### **WATER WELL QUALITY (Grey Coded)**

Featured with Open Bearings, bits are manufactured in USA or featured with Sealed or Journal Bearings but bits are usually produced in third world countries

Consistent quality and low prices make RECONDITIONED ROTARY BITS economical alternatives to new bit.

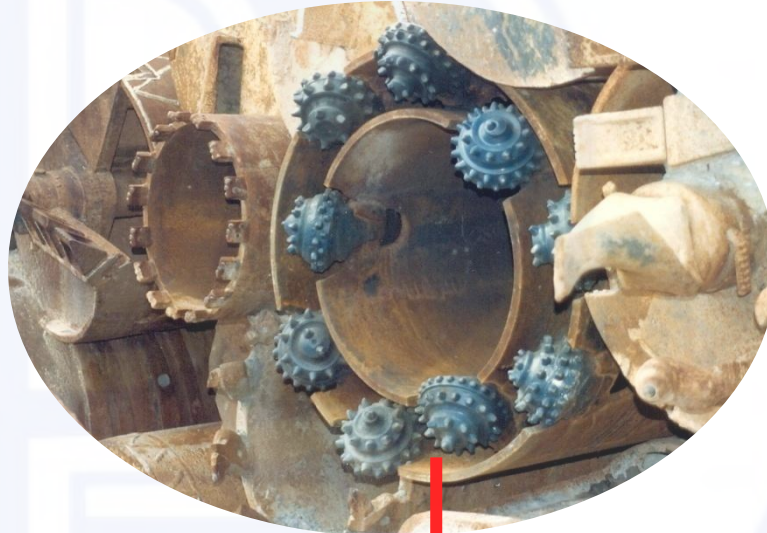
## **RECONDITIONED TRICONE ROLLER BIT SIZE AVAILABILITY (IN SINGAPORE)**



Available Sizes	Ex-stock sizes in Singapore (T.C.I.)
5½" to 5⅞"	5⅞"
6" to 6¾"	6½"
7" to 7⅞"	7½", 7⅝", 7⅞"
8½" to 8¾"	8½"
9" to 9⅞"	9½", 9⅝", 9⅞"
10⅝" to 11"	10⅝" & 11"
12¼"	12¼"
14" to 30"	14¾"

## Tricone Roller Bit (Additional Information)

Cut Section Cone Being Welded on 1.2 m Diameter DOUBLE CASING



Hole Opener



Cone *before* Assembly



Stabilizer