

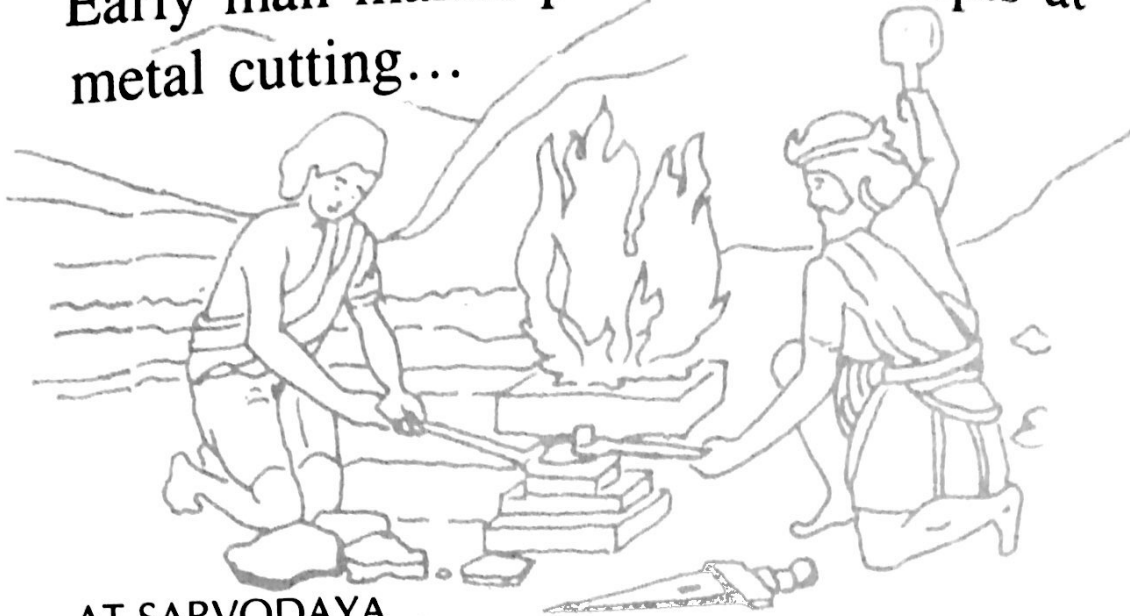


◀ SARVODAYA ▶



2500 B.C.

Early man makes primitive attempts at metal cutting...



AT SARVODAYA...

With the most modern equipments we bring to you Heavy Forgings of indisputable quality at reasonable prices with prompt deliveries.

Any application.....

any Industry.....

Our open forgings go to Cement, Sugar, Steel, Fertilizer, Power, Heavy Engineering Industries, manufacturers of Pumps, Turbines, Compressors, Hydraulic Power Packs, Pressure Vessels, Heat Exchangers, Gearbox Cranes and Material Handling Systems, Ship Building, Railway and Defence.

Open Forgings, Drop Forgings in a wide range.....

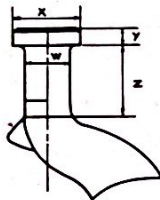
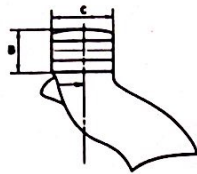
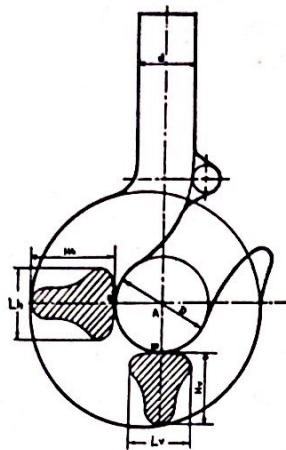
Our forgings as well as finish machined components are available in all grades of Carbon, Alloy and Stainless Steel. Some of the typical products are –

■ heavy duty hooks & cranes wheels ■ plain, multi-stepped and roller shafts ■ geared couplings and thick-walled shells ■ large flanges ■ trunnions ■ gear blanks and pinions ■ rings ■ hydraulic manifolds and fluid ends ■ piston rods, tie rods, rams, guides and tieplates for hammers and presses ■ Special-purpose forgings.....

Sarvodaya Forgings Advantage.....

■ heat-treatment shop to normalise, harden and temper upto 8m length

■ Well-equipped quality assurance facilities duly approved by Lloyds, I.S.I., Nuclear Power Corporation, N.T.P.C., B.H.E.L. etc....



SHANK HOOKS

LIFTING CAPACITY C_p IN TONNES FOR GRADES
IS:8610 1977

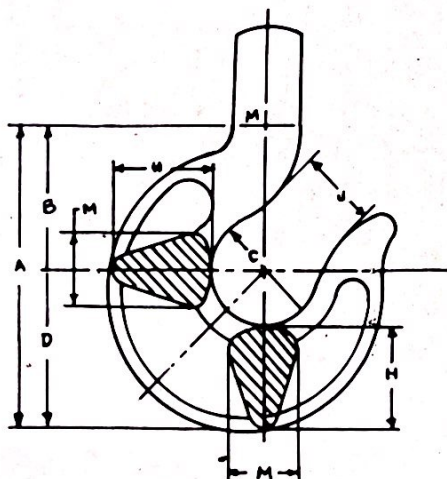
SR. NO.	PATTERN NO.	L	M	P	S	T	V	B	A	G	H	Lh	Lb	Lw	Lx	Lz
1	17	0.32	0.40	0.50	0.63	0.80	1.00	33.5	50	28	22	28	17.5	23.8	15.9	
2	20	0.63	0.80	1.00	1.25	1.60	2.00	40	60	31	25	36.5	22.4	30.7	20	
3	23	1.25	1.60	2.00	2.50	3.15	4.00	47.5	71	37	35	47.5	29	40	25.7	
4	25	2.00	2.50	3.15	4.00	5.00	6.30	53	80	42	43	56	34.5	47.5	30.7	
5	27	3.15	4.00	5.00	6.30	8.00	10.00	67	100	53	51	67	42.5	56	36.5	
6	30	6.30	8.00	10.00	12.50	16.00	20.00	85	140	75	75	95	60	80	50	
7	33	12.50	16.00	20.00	25.00	—	—	132	260	106	85	132	85	112	71	

BOTTOM TYPE HOOK

COLLAR TYPE HOOK

CAPACITY	B	C	WEIGHT	W	Z	Y	Z	WEIGHT
PAT NO. 17 0.5 TONNE	21	28		22	20	8	32	
PAT NO. 20 1.0 TONNE	30	37		25	31	10	30	
PAT NO. 23 2.0 TONNE	36	43		35	43	12	46	
PAT NO. 25 3.0 TONNE				29	45	15	30	

DIMENSIONS FOR STANDARD TRAPEZOIDAL SECTION POINT HOOKS WITH SHANK I.S. 3815



SR. NO.	SAFE WORKING LOAD W TONNES	A	B	C	D	H	J	M	WEIGHT
1	0.5	MS 74	35	27	39	25	20	16	
2	1.0	MS105	50	38	55	35	28	23	
3	2.0	MS145	69	53	76	49	40	32	
4	3.2	MS187	89	68	98	63	51	41	
5	5.0	MS233	111	85	122	79	64	51	
6	8.0	MS294	140	107	154	100	80	64	
7	10.0	MS327	156	119	171	111	89	71	
8	12.0	MS369	176	134	193	125	100	80	
9	16.0	MS415	198	151	217	140	113	91	
10	20.0	MS465	221	169	243	157	127	101	
11	25	MS520	248	189	272	176	142	113	
12	32	MS569	271	207	298	193	155	124	
13	40	MS516	293	224	323	208	168	134	
14	50	MS680	324	247	356	229	187	148	

GRAIN FLOW IS NOT LINEAR

GRAIN FLOW IS LINEAR

FORGING METHOD

The process of drop-forging a hook by the old method, in which cutting the fibre was unavoidable.

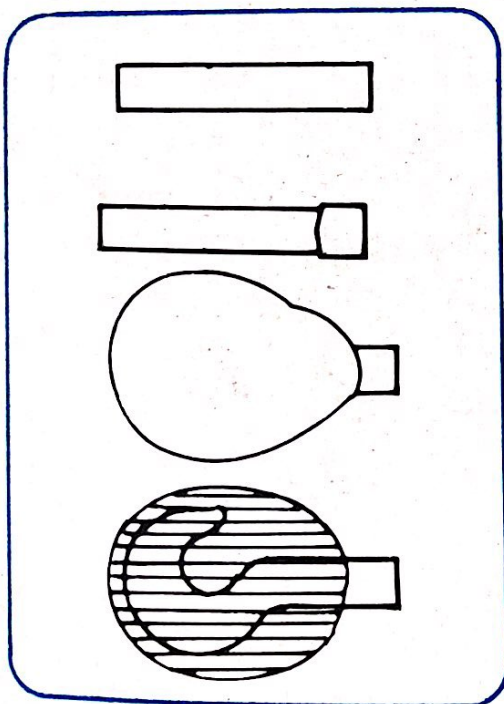
The Sequence of Operations was as follows:

- (1) Cutting the stock to length;
 - (2) drawing-out the head under a hammer;
 - (3) flattening the head;
 - (4) forging in dies to the shape and subsequently trimming the flash,
- these methods of forging hook, fibre of the metal is severed at the most dangerous section – at the nose of the hook; and, since the tractive effort is directed along, and not across the fibres, there is the danger that the hook will break at this point.

Hook drop-forged by old method.

The new technological process of drop-forging a hook so as to ensure the proper disposition of the fibre;

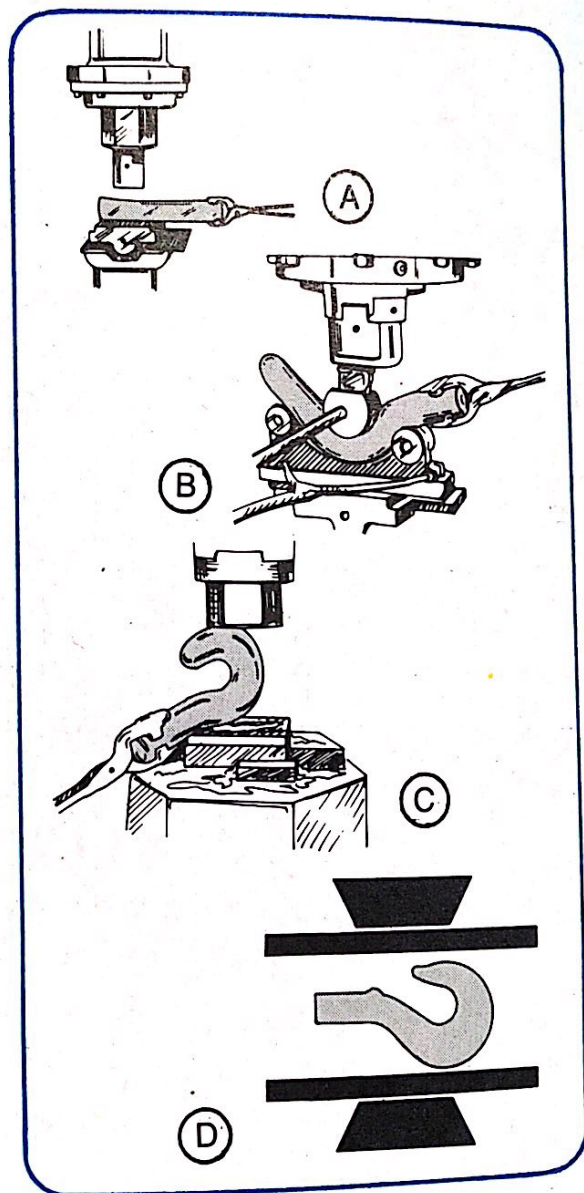
- (a) drawing-out end of stock;
- (b) stock bent to form head of hook;
- (c) hook after being drop-forged without trimming flash;
- (d) location of fibres in hook after drop-forging.



HOOK-DROP FORGED
MADE BY OTHERS.

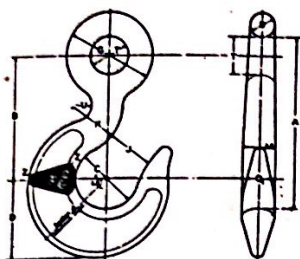
Difference between this method and the former one is that first operation of drawing-out the head of the hook a) the hook is bent, b) then stamped and trimmed, c) In this the direction of the tractive effort now coincides with that of the fibre i.e. Grain flow is linear.

According to this technological process, the mechanical properties of hooks forged in such dies will be much higher than those of hooks forged by the former technological process.



HOOK-DROP FORGED
MADE BY US.

EYE HOOKS, TRAPEZOIDAL SECTION FOR USE WITH WIRE ROPE THIMBLES B.S. 482:195

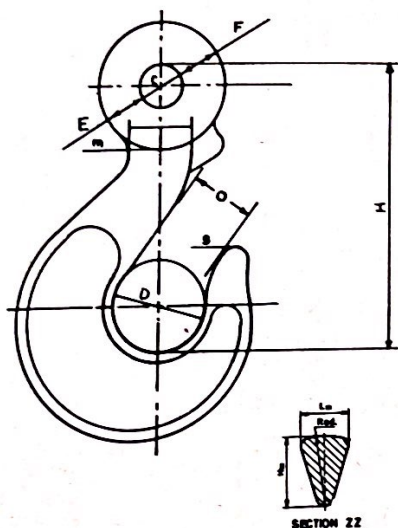


SRL NO.	W	C	A	B	D	G	H	J	W
	W = Safe working load	$C = 1.84 \sqrt{WA} - 2.79$ $CB = 1.84C D = 1.25C G = 1.41CH = 0.76CJ = 0.75C$							
	tons	in.	in.	in.	in.	in.	in.	in.	
1.	1/2	1 1/2	3 1/2	2 1/2	1 1/2	1 1/2	1	1	
2.	1	1 1/2	5 1/2	3 1/2	2 1/2	2 1/2	1 1/2	1 1/2	
3.	2	2 1/2	6 1/2	4 1/2	2 1/2	3 1/2	1 1/2	1 1/2	
4.	3	2 1/2	8 1/2	5 1/2	3 1/2	4 1/2	2 1/2	2 1/2	
5.	5	3 1/2	10 1/2	7 1/2	4 1/2	5 1/2	2 1/2	2 1/2	
6.	8	4 1/2	12 1/2	8 1/2	5 1/2	6 1/2	3 1/2	3 1/2	
7.	10	5	14	9 1/2	6 1/2	7	3 1/2	3 1/2	

EYE-HOOKS FOR USE WITH CHAIN

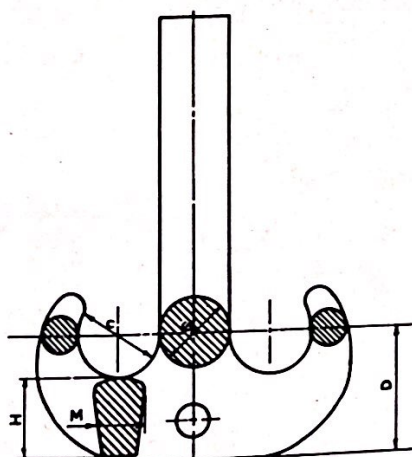
IS : 3822-1952

All Dimensions in mm



SRL NO.	PATTERN NO.	HORIZONTAL DIA OF CHAIN d	THROAT OPENING 2.5 d	SEAT DIA. d	SECTOR DEPTH 4.5 d	SECTION WIDTH 2.5 d	1.75 d	1.5 d	1.2 d	2.5 d	WT
1	21	8	23.2	30.4	34.4	23.2	14.0	14.4	98.0	28.0	
2	22	10	28.0	36.0	43.0	28.0	17.5	18.0	120.0	25.0	
3	25	12	36.3	47.5	53.9	36.3	21.9	22.5	150.0	31.2	
4	27	16	48.4	60.8	68.8	48.4	28.8	28.8	192.0	40.0	
5	29	20	58.0	76.8	86.0	58.0	36.0	36.0	240.0	50.0	
6	30	22	65.0	85.1	96.3	65.0	39.2	40.3	266.0	58.0	
7	31	25	72.5	95.1	103.5	72.5	43.8	35.0	300.0	62.5	
8	32	28	81.2	106.4	120.4	81.2	48.0	54.4	336.0	70.0	
9	33	32	92.8	121.6	137.6	92.8	56.0	57.6	380.0	80.0	
10	34	36	104.4	136.8	154.8	104.4	63.0	64.8	432.0	90.0	
11	35	40	116.8	152.0	172.0	116.8	70.0	72.0	480.0	100.0	
12	36	45	130.5	171.0	193.0	130.5	78.0	81.0	540.0	102.0	

RAMSHORN HOOKS



HOOK AS-PER B.S. 3017

SRL NO.	CAPACITY	B	E	M	R	H	C	
1	5	63	38	54	26	60	80	
2	10	80	50	60	30	89	90	
3	20	102	52	76	39	117	121	
4	25	114	57	86	33	132	133	
5	30	121	63	94	37	144	146	
6	35	127	68	100	38	156	152	
7	40	133	71	106	41	162	162	
8	50	146	79	117	46	181	179	
9	63	132	87	132	53	178	160	
10	80	156	98	150	60	190	185	
11	100	178	111	170	67	212	200	
12	125	190	121	190	75	236	224	
13	160	212	138	212	85	265	250	
14	200	236	152	236	95	300	280	
15	250	265	180	265	110	335	315	

SARVODAYA FORGINGS

The diagram shows a shaft-hub assembly. The shaft has a diameter of $\phi 30$ mm. The hub has an inner diameter of $\phi 30$ mm and an outer diameter of $\phi 60$ mm. The shaft length is $L = 100$ mm. The hub length is $L_1 = 50$ mm. The hub has a keyway with a width of $b = 10$ mm and a depth of $t = 5$ mm. The shaft has a keyway with a width of $b = 10$ mm and a depth of $t = 5$ mm. The diagram is labeled with dimensions: $\phi 30$, $\phi 60$, $L = 100$, $L_1 = 50$, $b = 10$, and $t = 5$.

SR. NO.	S.W.T. at Kg.	Date	Crane Price	B	D	E	F	G	H	M	Wt.
1	1050	20	3.00	50	18	50	20	45	38	24	74
2	1700	30	3.50	65	22	60	24	55	45	28	1.66
4	5200	48	5.00	100	35	90	38	85	70	46	5.6
5	6500	56	5.50	110	38	100	42	95	80	50	8.8

[illegible]

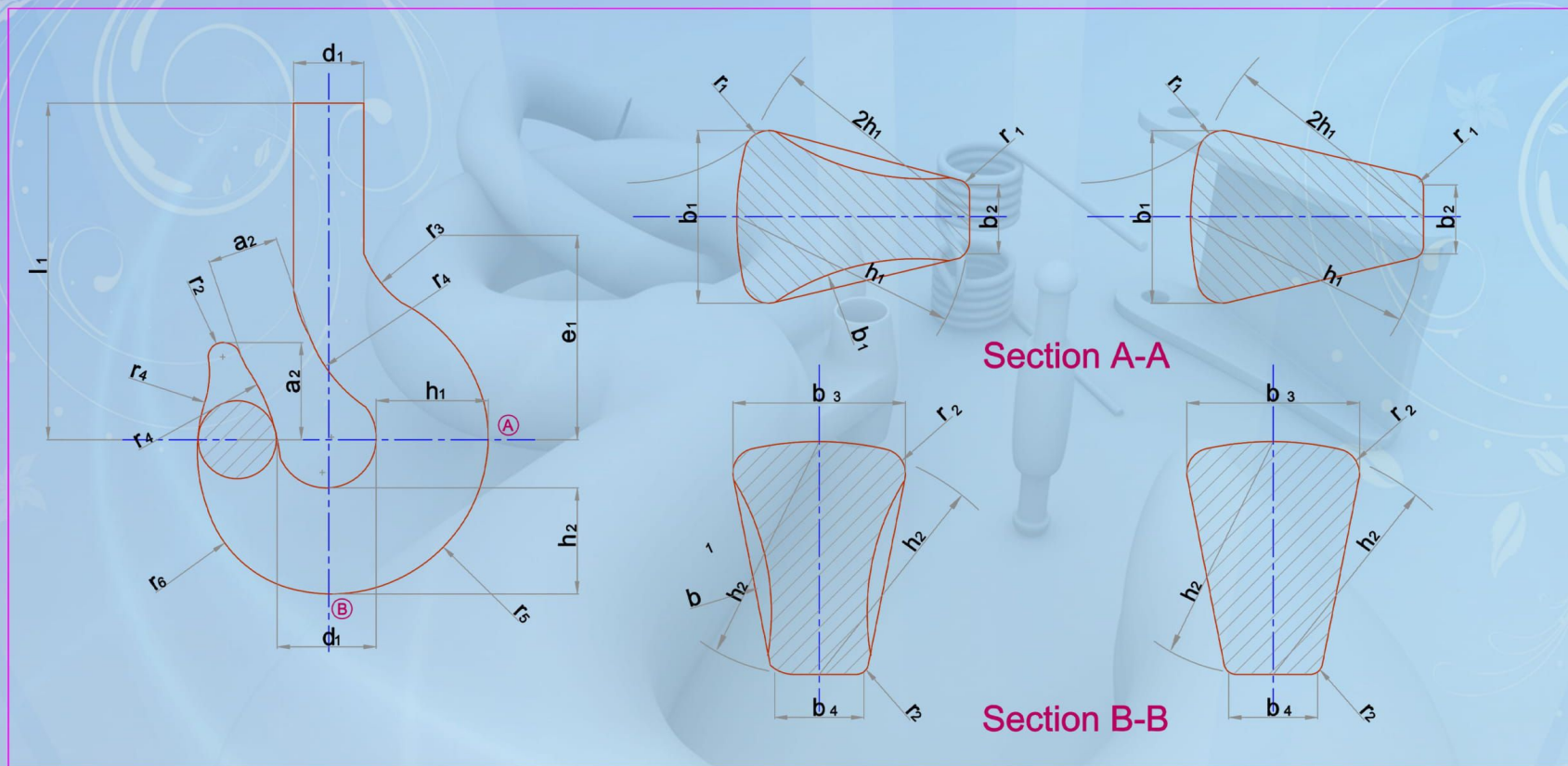
A diagram of a fish's internal anatomy, specifically focusing on the swim bladder. The swim bladder is shown as a large, oval-shaped structure located in the dorsal (upper) part of the fish's body. It is connected to the digestive tract via a long, thin tube. The diagram also shows the fish's outline, including its head, tail, and fins, to provide context for the location of the swim bladder.

WT.	H	A	J	M	B	C	CAP
4.54g	55	260	55	45	105	62	5T
3.54g	50	223	43	30	90	53	3T

NO. OF PATTERNS	CAPACITY IN MILLIGRAMS PER SQUARE INCH	PERCENTAGE OF AREA IN											
		1	2	3	4	5	6	7	8	9	10	11	12
1	21	2.00	87	42.5	23.5	9	46	32.5	24.5	21.8			
2	26	5.00	80	53	42.5	14	66	47.5	34.5	30.7			
3	25	8.00	100	67	53	17	87	56	42.5	35.5			
4	26	10.00	112	75	60	20	75	63	47.5	40			

SR.	MODEL NO.	D1	0	1	L1	WEIGHT
1	51	80	40	42	8	
2	52	105	45	52	10	
3	53	102	52	40	10	
4	54	102	45	45	10	
5	55	60	38	45	8	
6	56	85	36	58	8	
7	57	80	35	40	10	
8	58	100	38	50	16	
9	59	70	40	43	12	
10	60	170	85	41	17	
11	61	185	110	56	17	
12	62	170	110	32	17	
13	63	165	125	45	17	
14	64					
15	65					
16	66					

No	Parameters									
	Age	Sex	Height (cm)	Weight (kg)	BMI (kg/m ²)	Waist (cm)	Hip (cm)	Waist:Hip	SBP (mmHg)	DBP (mmHg)
1	25	M	170	65	22.0	85	95	0.89	110	70
2	28	F	160	55	21.5	80	90	0.89	105	65
3	30	M	175	70	22.2	90	100	0.90	115	75
4	32	F	165	60	21.2	85	95	0.89	108	68
5	35	M	180	75	22.8	95	105	0.90	120	80
6	38	F	170	65	22.0	90	100	0.90	115	75
7	40	M	185	80	23.2	100	110	0.91	125	85
8	42	F	175	70	22.2	95	105	0.90	118	78
9	45	M	190	85	24.2	105	115	0.91	130	90
10	48	F	180	75	22.8	100	110	0.91	125	85



Hook Designation	Working Load (Tonnes)	Proof Load (Tonnes)	a1	a2	b1	b2	b3	b4	d1	e1	h1	h2	l1	r1	r2	r3	r4	r5	r6	Weight in Kg
1	63	80	250	200	224	90	190	118	170	545	280	236	855	28	45	250	530	363	315	480
2	80	100	280	224	250	100	212	132	190	615	315	265	965	32	50	280	600	408	355	730
3	100	125	315	250	280	112	236	150	212	690	355	300	1080	36	56	315	670	460	400	1040
4	125	155	335	280	315	125	265	170	236	775	400	335	1210	40	63	335	750	516	450	1410
5	160	200	400	315	335	140	300	190	260	875	450	375	1350	45	71	400	850	578	500	2050

NOTES:

1. ALL DIMENSIONS ARE IN MM.
2. HOOKS ARE TO BE MANUFACTURED AND TESTED AS PER IS:6294-1971.
3. TEST CERTIFICATES FOR CHEMICAL, PHYSICAL, ULTRA SONIC TESTING AND PROOF LOAD TEST TO BE FURNISHED.
4. COARSE SERIES WITH GRADED PITCH.

POINT HOOKS(63 TO 160 tones)

dwg:SF/mh/103

SARVODAYA FORGINGS

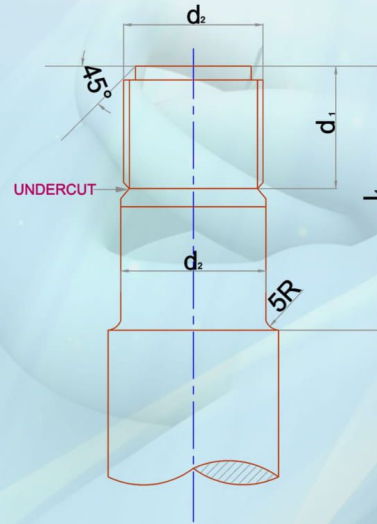
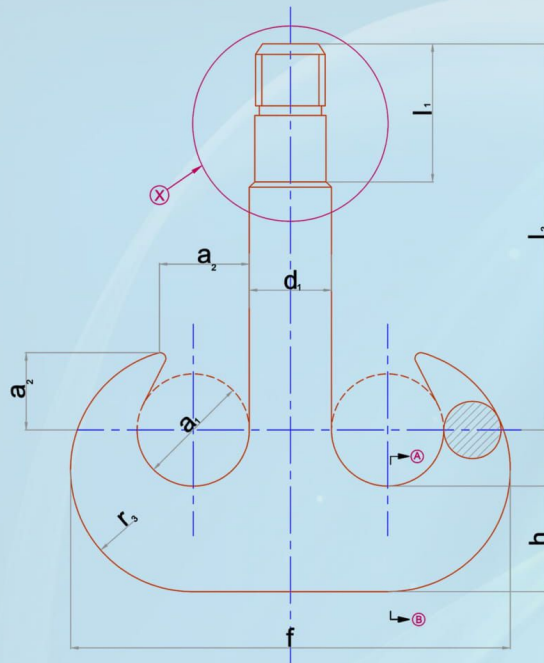
MANUFACTURES OF : RAW FORGINGS EARTH MOVING LIFTING EQUIPMENTS
STEEL CRANE HOOKS & RAILWAY COMPONENTS

3, LAKE ROAD, BHANDUP, MUMBAI - 400078. (INDIA)
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E-mail : sarvodayaforgings@gmail.com Website : www.ae.hooks.org

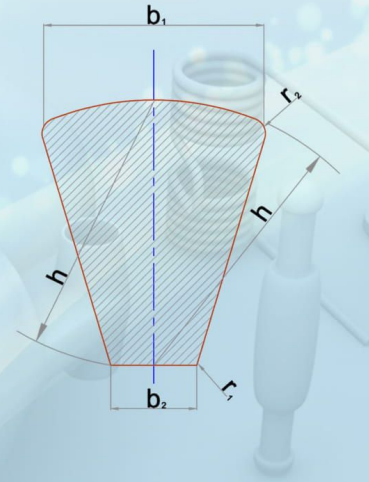


An ISO 9001:2008 Certified Co.

RAMSHORN HOOK



Details at X



Enlarged Section A-B

Ratings W (tons)	2.5	5	10	20	40	50	63	80	100	125	160	200	250
Proof load P(tons)	5	10	20	30	70	85	100	120	145	170	215	286	333
a1(2&P)	50	63	80	112	125±4	140±4	160±5	180±5	200±6	224±7	250±8	280±9	315±10
a2(0.8a1)	40	50	63	90	100±3	112±3	125±4	140±4	160±5	180±5	200±6	224±7	250±8
b1(0.85a1)	40	53	67	95	100+11	118+120	132+140	150+160	170+18	190+20	212+22	236+25	265+28
b2(0.335a1)	-	-	-	-	43+5	48+5	53+6	60+6	7+7	75+8	85+9	95+10	106+11
d1(0.85a1)	42	53	67	95	106±5	118±6	132±7	150±8	170±9	190±10	212±11	236±12	265±13
d2(0.71a1)	-	-	-	-	90	100	110	125	140	160	180	200	225
d3*	-	-	-	-	M90*6	M100*6	M110*6	M125*6	M140*6	M160*6	M180*6	M200*6	M225*6
f(4.25a1)	208	266	337	471	530	600	670	750	850	950	1060	1180	1320
h(1.06a1)	50	67	85	118	132+13	150+150	170+170	190+190	212+21	236+24	265+27	300+30	335+34
l1	-	-	-	-	188	207	234	260	282	325	357	305	455
l2	-	-	-	-	510	572	645	705	790	896	1005	1130	1260
m,min	-	-	-	-	80	90	100	112	125	140	160	180	200
r1(0.125a1)	4.5	6.5	8	11	16	18	20	22	25	28	32	36	40
r2(0.1a1)	6	8	10	14	13	14	16	18	20	22	25	28	32
r3(1.18a1)	-	-	-	-	150	70	190	212	236	265	300	335	375

NOTES:

1. ALL DIMENSIONS ARE IN MM.
2. HOOKS ARE TO BE MANUFACTURED AND TESTED AS PER IS:5749-1970.
3. TEST CERTIFICATES FOR CHEMICAL, PHYSICAL, ULTRA SONIC TESTING AND PROOF LOAD TEST TO BE FURNISHED.
4. COARSE SERIES WITH GRADED PITCH.

dwg:SF/mh/102

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