Government of Maharashtra

Directorate of Vocational Education and Training

Craftsman Training Scheme

SPECIFICATION FOR ENGINEERING FILES

Version 4, 2024

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1 File - Cant Saw, Smooth, 150 mm with Handle

1.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
1.2	Generally conforming to IS 1931-2000		
1.3	Body Length (L)	149	152
1.4	Tang Length (TL)	48	52
1.5	Width (W)	13.3	13.7
1.6	No. of Upcut / Inch	48	52
1.7	Upcut inclination	49^{o}	51^{o}
1.8	Edge cut Inclination	89^{0}	91^{0}
1.9	Hardness	60 HRC	64 HRC

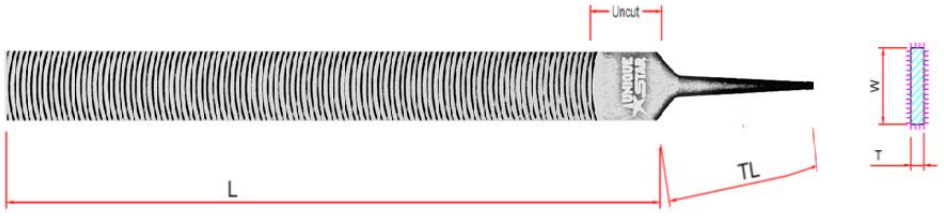
2 File - Car Body, Bastard Cut without Tang, 300 mm with Handle

2.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
2.2	Generally conforming to IS 1931-2000		
2.3	Body Length (L)	289	301
2.4	Width (W)	29.3	29.7
2.5	Thickness (T)	5.6	5.8
2.6	No. of cuts/inch	10	10
2.7	Hole Dia (Approx)	1/4”	1/4”
2.8	Distance Between Holes (Approx)	10x13/64”	10x13/64”
2.9	Uncut	N.A	N.A
2.10	Hardness	63 HRC	65 HRC

3 File - Dread Naught, Bastard, 300 mm with Handle

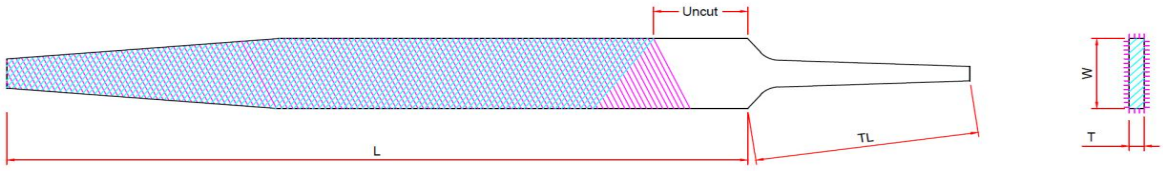
3.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
3.2	Generally conforming to IS 1931-2000		
3.3	Body Length (L)	297	302
3.4	Tang Length (TL)	68	72
3.5	Width (W)	29.3	29.7
3.6	Thickness (T)	5.6	5.8
3.7	No. of Cut /Inch	10	10
3.8	Uncut	30	32
3.9	Hardness	63 HRC	65 HRC

4 File - Flat, Aluminium, 200 mm with Handle

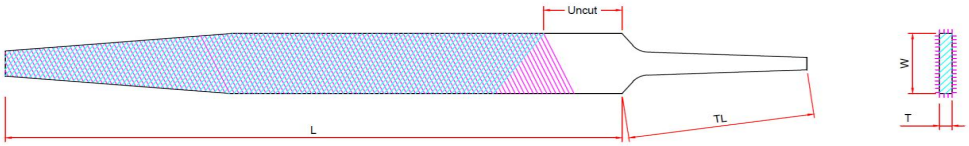
4.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
4.2	Generally conforming to IS 1931-2000		
4.3	Body Length (L)	197	203
4.4	Tang Length (TL)	53	57
4.5	Width (W)	19.4	19.8
4.6	Thickness (T)	4.0	4.4
4.7	No. of Upcut / Inch	15	16
4.8	Upcut inclination	49^0	51^0
4.9	No. of Edge cut / Inch	24	25
4.10	Edge cut Inclination	82^0	82^0
4.11	No. of over cut / Inch	19	20
4.12	Overcut inclination	64^0	66^0
4.13	Hardness	63 HRC	65 HRC

5 File - Flat, Aluminium, 300 mm with Handle

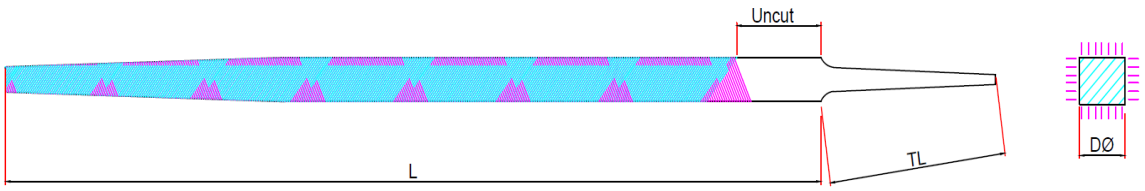
5.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
5.2	Generally conforming to IS 1931-2000		
5.3	Body Length (L)	297	303
5.4	Tang Length (TL)	68	72
5.5	Width (W)	29.3	29.7
5.6	Thickness (T)	5.6	6.0
5.7	No. of Upcut / Inch	8	9
5.8	Upcut inclination	49^0	51^0
5.9	No. of Edge cut / Inch	20	21
5.10	Edge cut Inclination	82^0	82^0
5.11	No. of over cut / Inch	12	13
5.12	Overcut inclination	64^0	66^0
5.13	Hardness	63 HRC	65 HRC

6 File - Flat, Bastard, 150 mm with Handle

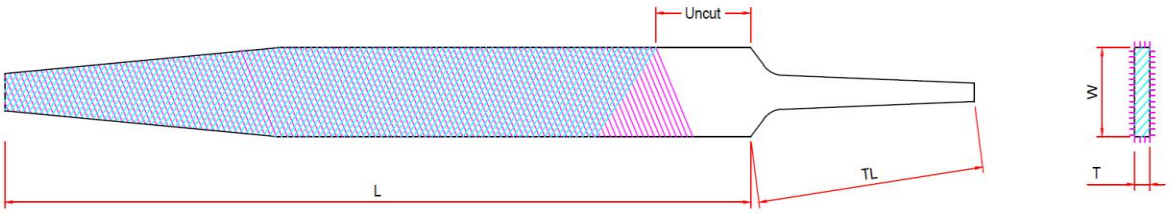
6.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
6.2	Generally conforming to IS 1931-2000		
6.3	Body Length (L)	147	153
6.4	Tang Length (TL)	48	52
6.5	Width(W)	15.8	16.2
6.6	Thickness (T)	3.8	4.2
6.7	No. of Upcut / Inch	30	31
6.8	Upcut inclination	49^0	51^0
6.9	Overcut Inclination	64^0	66^0
6.10	Hardness	60 HRC	64 HRC
6.11	Rake Angle	-7^0	-12^0
6.12	Edge Cut Inclination	89^0	91^0
6.13	Type of Cut	Double Cut	

7 File - Flat, Bastard, 200 mm with Handle

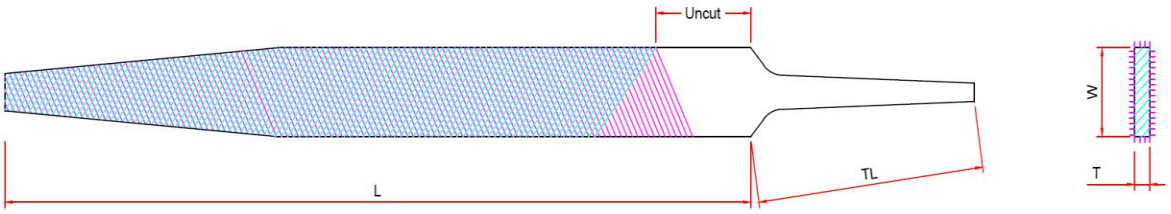
7.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
7.2	Generally conforming to IS 1931-2000		
7.3	Body Length (L)	198	202
7.4	Tang Length (TL)	58	62
7.5	Width (W)	19.6	20.6
7.6	Thickness (T)	4.8	5.2
7.7	No. of Upcut / Inch	24	26
7.8	Upcut inclination	49^o	51^o
7.9	Overcut Inclination	64^o	66^o
7.10	Edge cut Inclination	89^0	91^0
7.11	Hardness	60 HRC	64 HRC
7.12	Rake Angle	-7^0	-12^0
7.13	Type of Cut	Double Cut	

8 File - Flat, Bastard, 250 mm with Handle

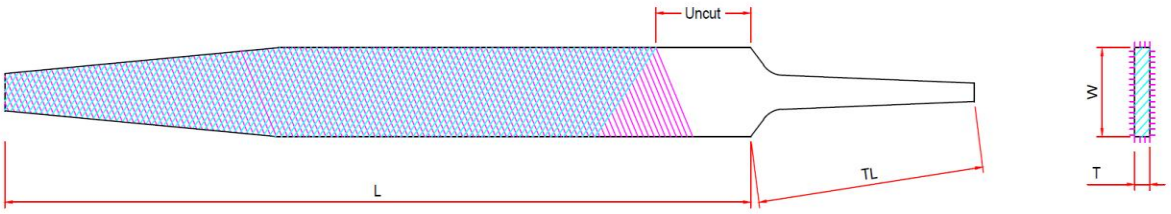
8.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
8.2	Generally conforming to IS 1931-2000		
8.3	Body Length (L)	247	253
8.4	Tang Length (TL)	68	72
8.5	Width (W)	24.8	25
8.6	Thickness (T)	5.8	6.2
8.7	No. of Upcut / Inch	19	21
8.8	Upcut inclination	49^o	51^o
8.9	Overcut Inclination	64^o	66^o
8.10	Edge cut Inclination	89^o	91^o
8.11	Hardness	60 HRC	64 HRC
8.12	Rake Angle	-7^0	-12^0
8.13	Type of Cut	Double Cut	

9 File - Flat, Bastard, 300 mm with Handle

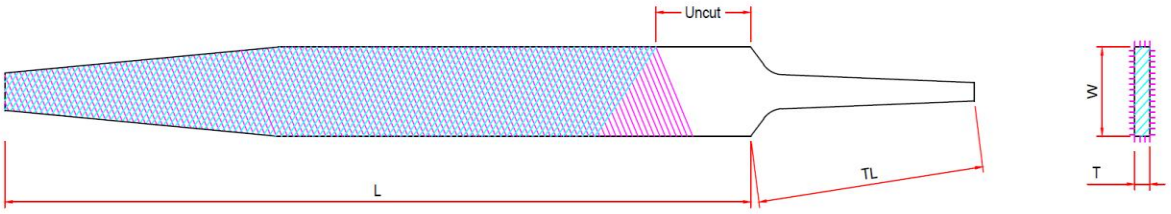
9.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
9.2	Generally conforming to IS 1931-2000		
9.3	Body Length (L)	298	302
9.4	Tang Length (TL)	78	82
9.5	Width (W)	29.5	30.5
9.6	Thickness (T)	6.4	6.6
9.7	No. of Upcut / Inch	17	18
9.8	Upcut inclination	49^o	51^o
9.9	Overcut Inclination	64^o	66^o
9.10	Edge cut Inclination	89^o	91^o
9.11	Hardness	60 HRC	64 HRC
9.12	Rake Angle	-7^0	-12^0
9.13	Type of Cut	Double Cut	

10 File - Flat, Bastard, 350 mm with Handle

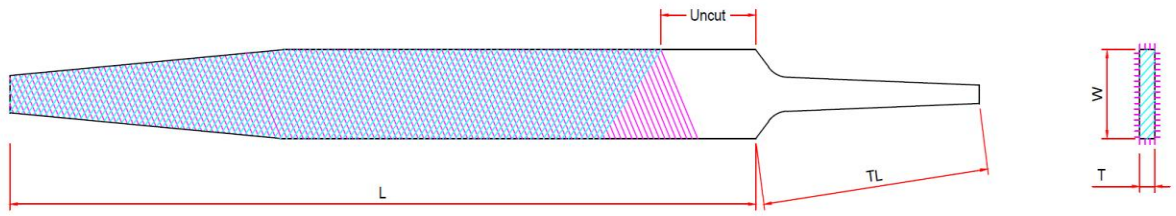
10.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
10.2	Generally conforming to IS 1931-2000		
10.3	Body Length (L)	348	352
10.4	Tang Length (TL)	88	92
10.5	Width (W)	34.6	35.6
10.6	Thickness (T)	7.3	7.8
10.7	No. of Upcut / Inch	16	17
10.8	Upcut inclination	49^0	51^0
10.9	Overcut Inclination	64^0	66^0
10.10	Edge cut Inclination	89^0	91^0
10.11	Hardness	60 HRC	64 HRC
10.12	Rake Angle	-7^0	-12^0
10.13	Type of Cut	Double Cut	

11 File - Flat, Second Cut, 150 mm with Handle

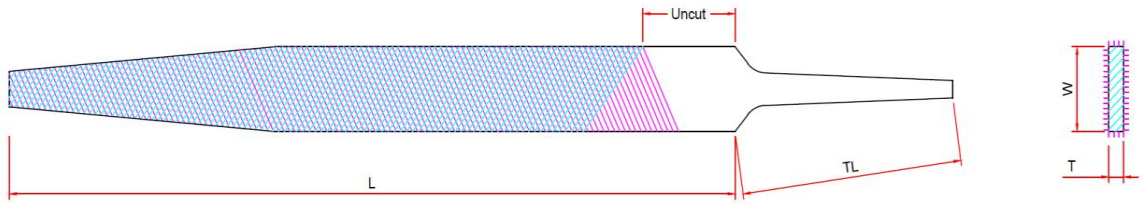
11.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
11.2	Generally conforming to IS 1931-2000		
11.3	Body Length (L)	148	152
11.4	Tang Length (TL)	48	52
11.5	Width (W)	15.8	16.2
11.6	Thickness (T)	3.8	4.2
11.7	No. of Upcut / Inch	36	38
11.8	Upcut inclination	49^0	51^0
11.9	Overcut Inclination	64^0	66^0
11.10	Edge cut Inclination	89^0	91^0
11.11	Hardness	60 HRC	64 HRC
11.12	Rake Angle	-7^0	-12^0
11.13	Type of Cut	Double Cut	

12 File - Flat, Second Cut, 200 mm with Handle

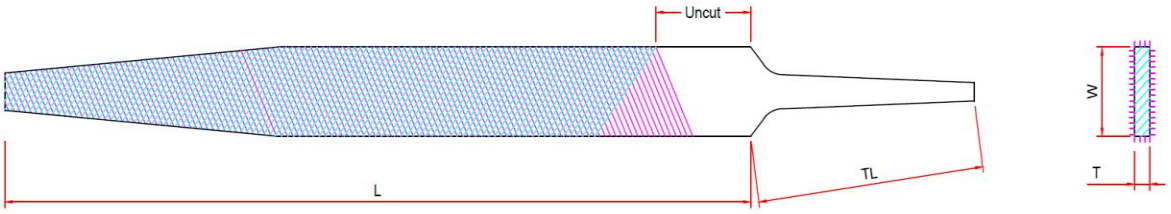
12.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
12.2	Generally conforming to IS 1931-2000		
12.3	Body Length (L)	198	202
12.4	Tang Length (TL)	58	62
12.5	Width (W)	20.3	20.7
12.6	Thickness (T)	4.8	5.2
12.7	No. of Upcut / Inch	30	32
12.8	Upcut inclination	49^0	51^0
12.9	Overcut Inclination	64^0	66^0
12.10	Edge cut Inclination	89^0	91^0
12.11	Hardness	60 HRC	64 HRC
12.12	Type of Cut	Double Cut	

13 File - Flat, Second Cut, 250 mm with Handle

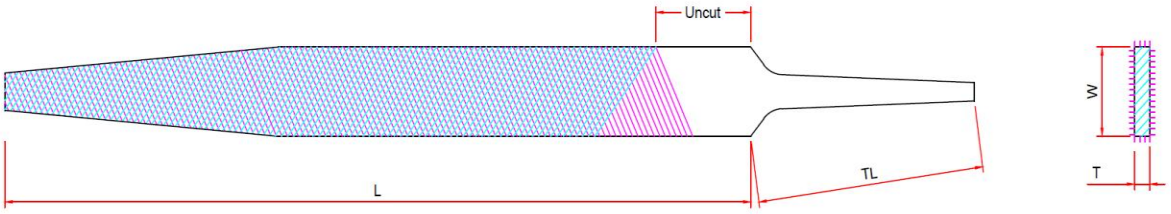
13.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
13.2	Generally conforming to IS 1931-2000		
13.3	Body Length (L)	248	252
13.4	Tang Length (TL)	68	72
13.5	Width (W)	24.8	25.2
13.6	Thickness (T)	5.8	6.2
13.7	No. of Upcut / Inch	26	28
13.8	Upcut inclination	49^0	51^0
13.9	Overcut Inclination	64^0	66^0
13.10	Edge cut Inclination	89^0	91^0
13.11	Hardness	60 HRC	64 HRC
13.12	Rake Angle	-7^0	-12^0
13.13	Type of Cut	Double Cut	

14 File - Flat, Smooth, 150 mm with Handle

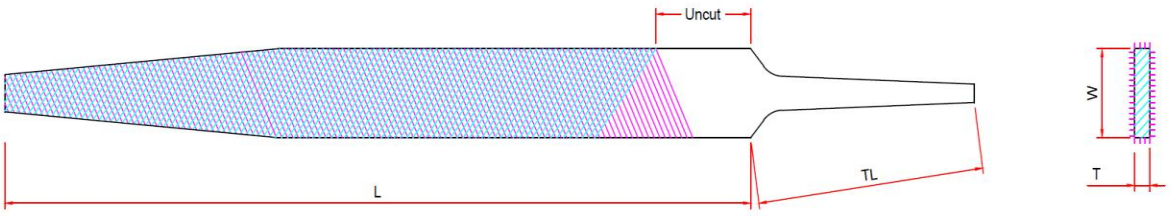
14.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
14.2	Generally conforming to IS 1931-2000		
14.3	Body Length (L)	148	152
14.4	Tang Length (TL)	48	52
14.5	Width (W)	15.8	16.2
14.6	Thickness (T)	3.8	4.2
14.7	No. of Upcut / Inch	48	54
14.8	Upcut inclination	49^0	51^0
14.9	Overcut Inclination	64^0	66^0
14.10	Edge cut Inclination	89^0	91^0
14.11	Hardness	60 HRC	64 HRC
14.12	Rake Angle	-7^0	-12^0
14.13	Type of Cut	Double Cut	

15 File - Flat, Smooth, 200 mm with Handle

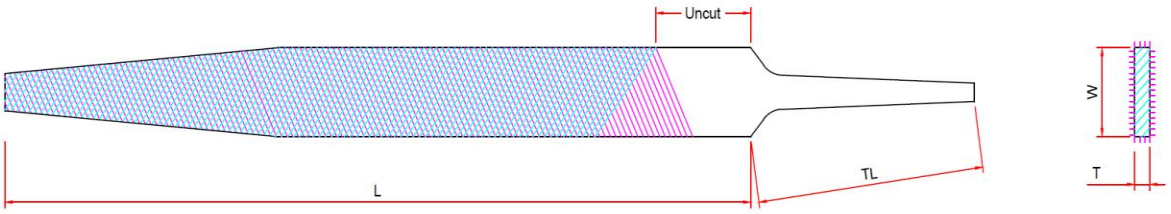
15.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
15.2	Generally conforming to IS 1931-2000		
15.3	Body Length (L)	197	203
15.4	Tang Length (TL)	58	62
15.5	Width (W)	19.6	20.6
15.6	Thickness (T)	4.8	5.2
15.7	No. of Upcut / Inch	31	33
15.8	Upcut inclination	49^0	51^0
15.9	Overcut Inclination	64^0	66^0
15.10	No. of Edge cut / Inch	48	49
15.11	Hardness	60 HRC	64 HRC
15.12	Rake Angle	-7^0	-12^0
15.13	Type of Cut	Double Cut	

16 File - Flat, Smooth, 250 mm with Handle

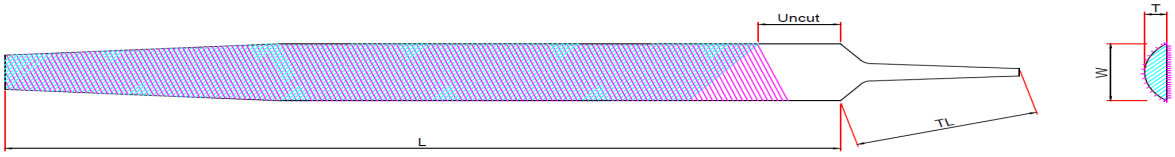
16.1 Basic Indicative Diagram



		Range (In MM) From	To
16.2	Generally conforming to IS 1931-2000		
16.3	Body Length (L)	248	252
16.4	Tang Length (TL)	68	72
16.5	Width (W)	24.8	25
16.6	Thickness (T)	5.8	6.2
16.7	No. of Upcut / Inch	27	29
16.8	Upcut inclination	49^0	51^0
16.9	Overcut Inclination	64^0	66^0
16.10	Edge cut Inclination	89^0	91^0
16.11	Hardness	60 HRC	64 HRC
16.12	Rake Angle	-7^0	-12^0
16.13	Type of Cut	Double Cut	

17 File - Half Round, Bastard, 150 mm with Handle

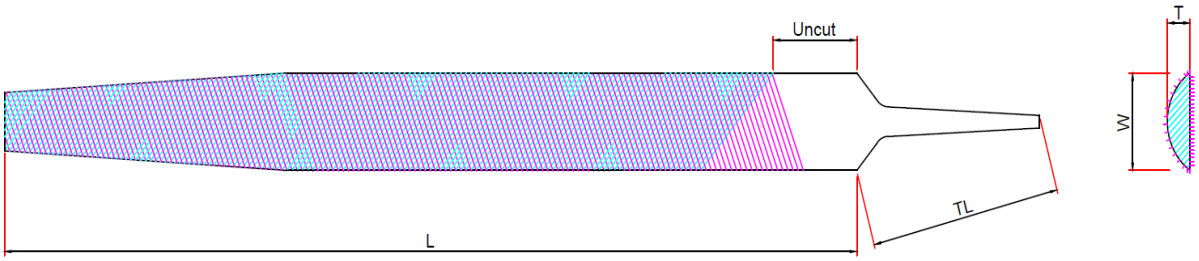
17.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
17.2	Generally conforming to IS 1931-2000		
17.3	Body Length (L)	147	153
17.4	Tang Length (TL)	48	52
17.5	Width(W)	15.8	16.2
17.6	Thickness (T)	3.8	4.2
17.7	No. of Upcut / Inch	30-31 F/S	29-30 R/S
17.8	Upcut inclination	49^0	51^0
17.9	Overcut Inclination	64^0	66^0
17.10	Hardness	60 HRC	64 HRC
17.11	Rake Angle	-7^0	-12^0
17.12	Type of Cut	Double Cut	

18 File - Half Round, Bastard, 200 mm with Handle

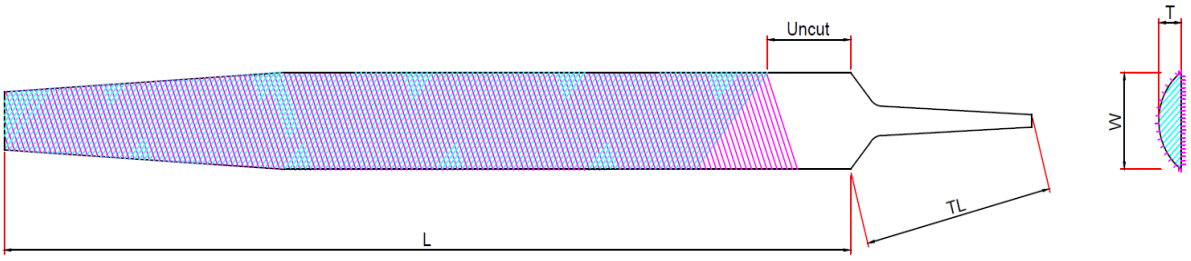
18.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
18.2	Generally conforming to IS 1931-2000		
18.3	Body Length (L)	198	202
18.4	Tang Length (TL)	58	62
18.5	Width (W)	19.8	20.2
18.6	Thickness (T)	5.15	5.85
18.7	No. of Upcut / Inch	25-26 F/S	24-26 R/S
18.8	Upcut inclination	49^0	51^0
18.9	Overcut Inclination	64^0	66^0
18.10	Edge cut Inclination	89^0	91^0
18.11	Hardness	60 HRC	64 HRC
18.12	Rake Angle	-7^0	-12^0
18.13	Type of Cut	Double Cut	

19 File - Half Round, Bastard, 250 mm with Handle

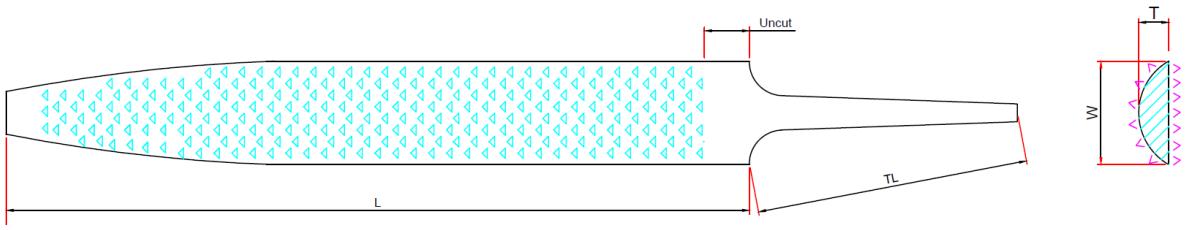
19.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
19.2	Generally conforming to IS 1931-2000		
19.3	Body Length (L)	250	252
19.4	Tang Length (TL)	68	72
19.5	Width (W)	23.70	24.7
19.6	Thickness (T)	6.55	7.25
19.7	No. of Upcut / Inch	23-24 F/S	23-24 R/S
19.8	Upcut inclination	49^0	51^0
19.9	Overcut Inclination	64^0	66^0
19.10	Edge cut Inclination	89^0	91^0
19.11	Hardness	60 HRC	64 HRC
19.12	Rake Angle	-7^0	-12^0
19.13	Type of Cut	Double Cut	

20 File - Half Round, Bastard Rasp Cut, 250 mm with Handle

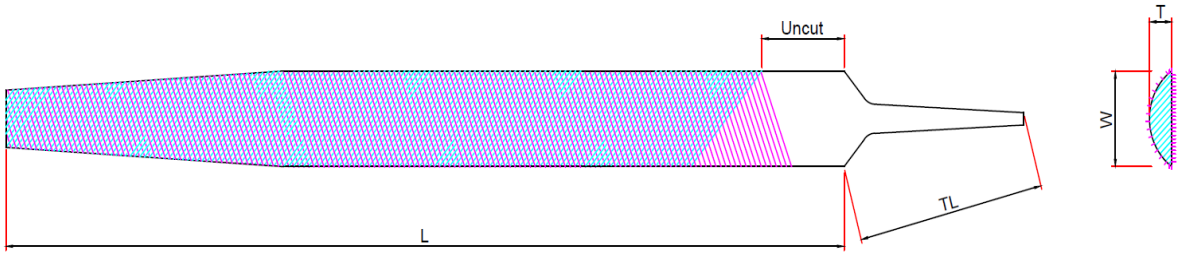
20.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
20.2	Generally conforming to IS 3587:1986		
20.3	Body Length (L)	248	252
20.4	Tang Length (TL)	59	61
20.5	Width (W)	23.70	24.7
20.6	Thickness (T)	6.55	7.25
20.7	No. of Teeth Per Row (R/S)	9	NA
20.8	No. of Row Per Inch (R/S)	7.5	NA
20.9	No. of Teeth per Row (F/S)	8	NA
20.10	No. of Row Per Inch (F/S)	7.5	NA
20.11	No. of Edge cut / Inch	27	29
20.12	Hardness	60 HRC	64 HRC
20.13	Rake Angle	-7^0	-12^0

21 File - Half Round, Second Cut, 150 mm with Handle

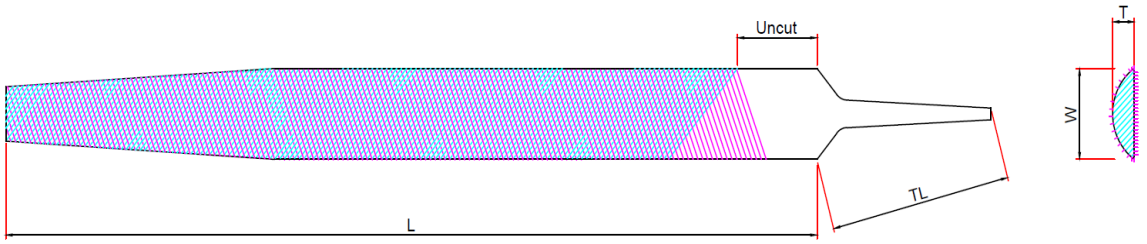
21.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
21.2	Generally conforming to IS 1931-2000		
21.3	Body Length (L)	148	152
21.4	Tang Length (TL)	49	51
21.5	Width (W)	15.20	16.20
21.6	Thickness (T)	3.95	4.65
21.7	No. of Upcut / Inch	37-38 F/S	34-35 R/S
21.8	Upcut inclination	49^0	51^0
21.9	Overcut Inclination	64^0	66^0
21.10	Edge cut Inclination	89^0	91^0
21.11	Hardness	60 HRC	64 HRC
21.12	Rake Angle	-7^0	-12^0
21.13	Type of Cut	Double Cut	

22 File - Half Round, Second Cut, 200 mm with Handle

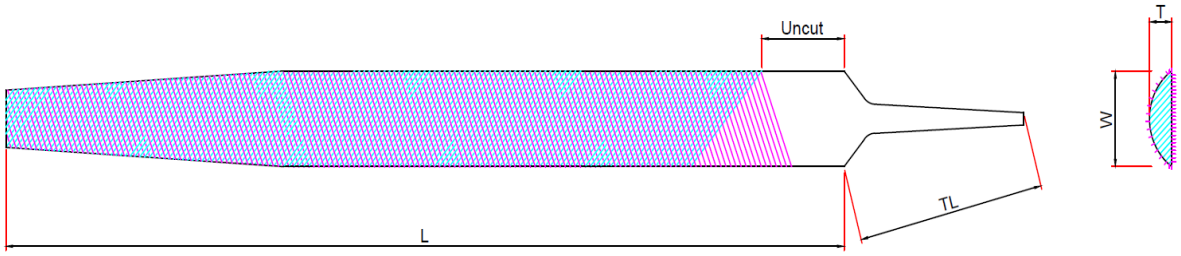
22.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
22.2	Generally conforming to IS 1931-2000		
22.3	Body Length (L)	197	203
22.4	Tang Length (TL)	58	62
22.5	Width (W)	19.8	20.2
22.6	Thickness (T)	5.3	5.6
22.7	No. of Upcut / Inch	30-31 F/S	27-28 R/S
22.8	Upcut inclination	49^0	51^0
22.9	Overcut Inclination	64^0	66^0
22.10	Edge cut Inclination	89^0	91^0
22.11	Hardness	60 HRC	64 HRC
22.12	Type of Cut	Double Cut	

23 File - Half Round, Second Cut, 250 mm with Handle

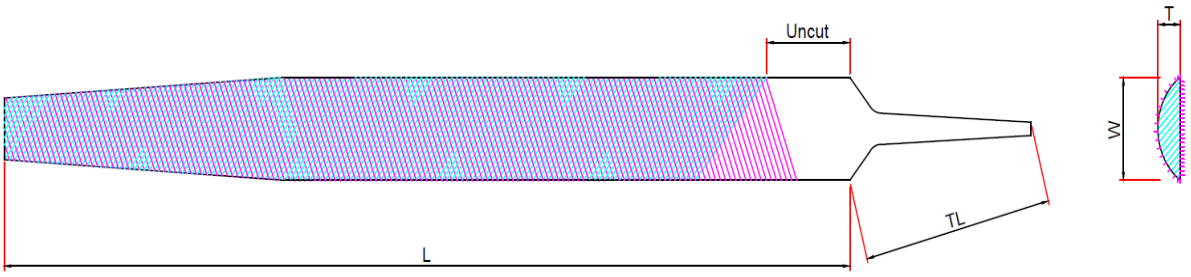
23.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
23.2	Generally conforming to IS 1931-2000		
23.3	Body Length (L)	250	252
23.4	Tang Length (TL)	68	72
23.5	Width (W)	23.70	24.7
23.6	Thickness (T)	6.55	7.25
23.7	No. of Upcut / Inch	27-28 F/S	25-26 R/S
23.8	Upcut inclination	49^0	51^0
23.9	Overcut Inclination	64^0	66^0
23.10	Edge cut Inclination	89^0	91^0
23.11	Hardness	60 HRC	64 HRC
23.12	Rake Angle	-7^0	-12^0
23.13	Type of Cut	Double Cut	

24 File - Half Round, Smooth, 150 mm with Handle

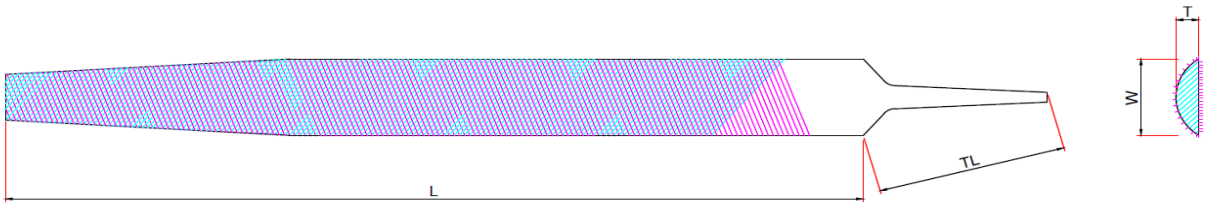
24.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
24.2	Generally conforming to IS 1931-2000		
24.3	Body Length (L)	150	152
24.4	Tang Length (TL)	50	51
24.5	Width (W)	15.20	16.20
24.6	Thickness (T)	3.95	4.65
24.7	No. of Upcut / Inch	50-54 F/S	46-48 R/S
24.8	Upcut inclination	49°	51°
24.9	Overcut Inclination	64°	66°
24.10	Edge cut Inclination	89°	91°
24.11	Hardness	60 HRC	64 HRC
24.12	Rake Angle	-7°	-12°
24.13	Type of Cut	Double Cut	

25 File - Half Round, Smooth, 200 mm with Handle

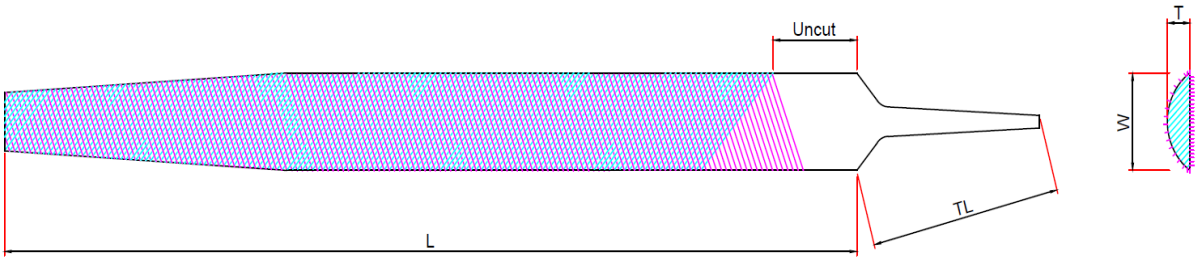
25.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
25.2	Generally conforming to IS 1931-2000		
25.3	Body Length (L)	200	202
25.4	Tang Length (TL)	58	62
25.5	Width (W)	19.8	20.2
25.6	Thickness (T)	5.15	5.85
25.7	No. of Upcut / Inch	42-43 F/S	40-41 R/S
25.8	Upcut inclination	49^o	51^o
25.9	Overcut Inclination	64^o	66^o
25.10	Edge cut Inclination	89^o	91^o
25.11	Hardness	60 HRC	64 HRC
25.12	Rake Angle	-7^0	-12^0
25.13	Type of Cut	Double Cut	

26 File - Half Round, Smooth, 250 mm with Handle

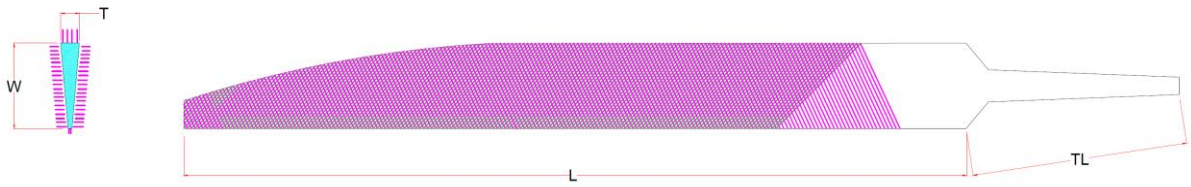
26.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
26.2	Generally conforming to IS 1931-2000		
26.3	Body Length (L)	247	253
26.4	Tang Length (TL)	68	72
26.5	Width (W)	23.8	24.2
26.6	Thickness (T)	6.8	7.2
26.7	No. of Upcut / Inch	39-42 F/S	40-42 R/S
26.8	Upcut inclination	49^{o}	51^{o}
26.9	Overcut Inclination	64^{o}	66^{o}
26.10	Hardness	60 HRC	64 HRC
26.11	Rake Angle	-7^{0}	-12^{0}
26.12	Type of Cut	Double Cut	

27 File - Knife Edge, 150 mm with Handle

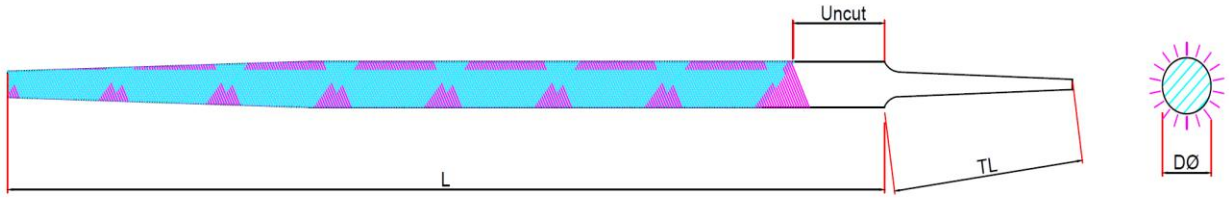
27.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
27.2	Generally conforming to IS 1931-2000		
27.3	Body Length (L)	150	152
27.4	Tang Length (TL)	50	51
27.5	Width (W)	17.8	18.2
27.6	Thickness (T)	3.8	4.2
27.7	No. of Upcut / Inch	50	52
27.8	Upcut inclination	49^o	51^o
27.9	Overcut Inclination	64^o	66^o
27.10	Edge cut Inclination	89^0	91^0
27.11	Hardness	60 HRC	64 HRC
27.12	Rake Angle	-7^0	-12^0
27.13	Type of Cut	Double Cut	

28 File - Round, Bastard, 150 mm with Handle

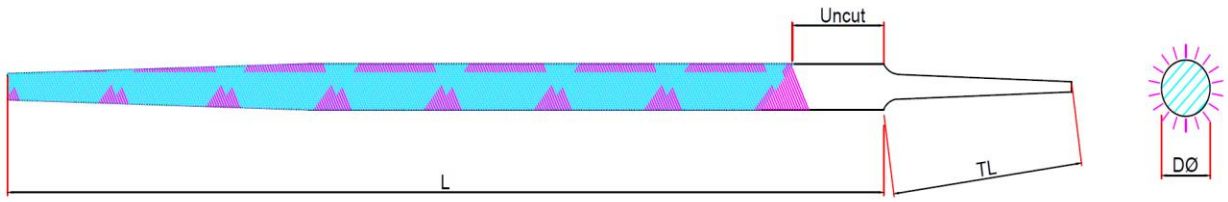
28.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
28.2	Generally conforming to IS 1931-2000		
28.3	Body Length (L)	147	153
28.4	Tang Length (TL)	48	52
28.5	Diameter (Ø)	5.8	6.2
28.6	No. of Upcut / Inch	30	31
28.7	Upcut inclination	49^o	51^o
28.8	Overcut Inclination	64^o	66^o
28.9	Hardness	60 HRC	64 HRC
28.10	Rake Angle	-7^0	-12^0
28.11	Type of Cut	Double Cut	

29 File - Round, Bastard, 200 mm with Handle

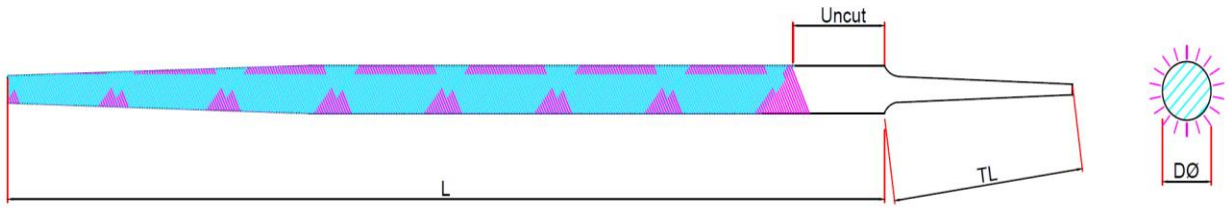
29.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
29.2	Generally conforming to IS 1931-2000		
29.3	Body Length (L)	197	203
29.4	Tang Length (TL)	58	62
29.5	Diameter (Ø)	7.4	7.6
29.6	No. of Upcut / Inch	23	25
29.7	Upcut inclination	49^o	51^o
29.8	Overcut Inclination	64^o	66^o
29.9	Hardness	60 HRC	64 HRC
29.10	Rake Angle	-7^0	-12^0
29.11	Type of Cut	Double Cut	

30 File - Round, Bastard, 250 mm with Handle

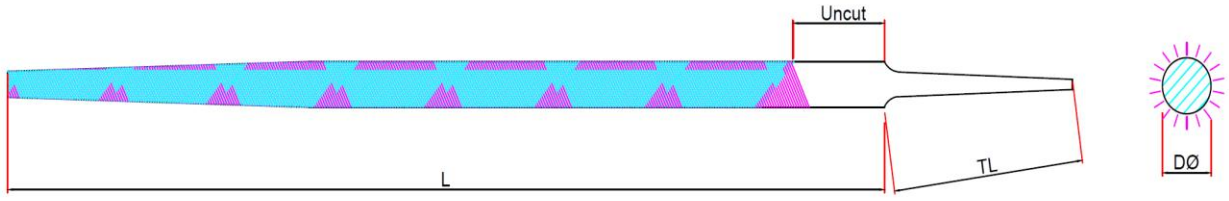
30.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
30.2	Generally conforming to IS 1931-2000		
30.3	Body Length (L)	248	252
30.4	Tang Length (TL)	68	72
30.5	Diameter (Ø)	9.4	9.6
30.6	No. of Upcut / Inch	22	23
30.7	Upcut inclination	49^o	51^o
30.8	Overcut Inclination	64^o	66^o
30.9	Hardness	60 HRC	64 HRC
30.10	Rake Angle	-7^0	-12^0
30.11	Type of Cut	Double Cut	

31 File - Round, Second Cut, 150 mm with Handle

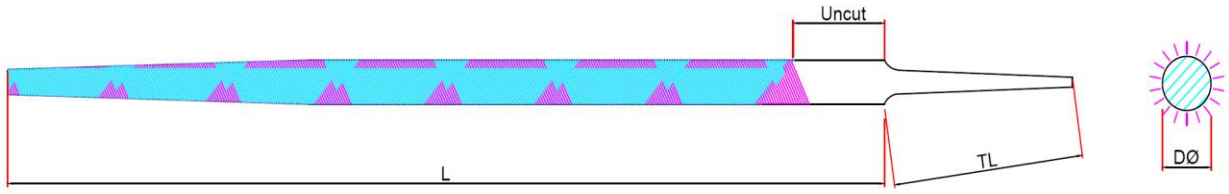
31.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
31.2	Generally conforming to IS 1931-2000		
31.3	Body Length (L)	147	153
31.4	Tang Length (TL)	48	52
31.5	Diameter (Ø)	5.8	6.2
31.6	No. of Upcut / Inch	34	36
31.7	Upcut inclination	49^o	51^o
31.8	Overcut Inclination	64^o	66^o
31.9	Hardness	60 HRC	64 HRC
31.10	Rake Angle	-7^0	-12^0
31.11	Type of Cut	Double Cut	

32 File - Round, Second Cut, 200 mm with Handle

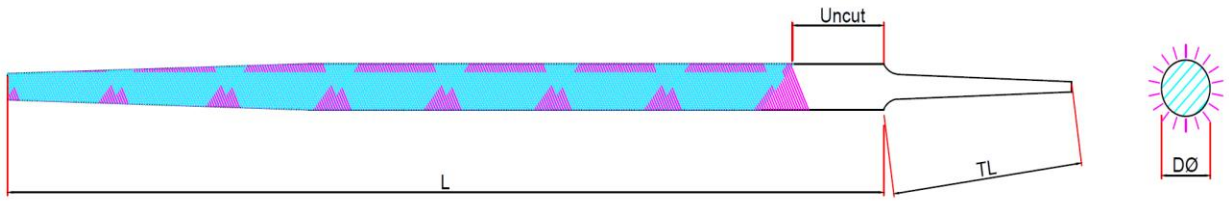
32.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
32.2	Generally conforming to IS 1931-2000		
32.3	Body Length (L)	198	202
32.4	Tang Length (TL)	58	62
32.5	Diameter (Ø)	7.4	7.6
32.6	No. of Upcut / Inch	30	32
32.7	Upcut inclination	49°	51°
32.8	Overcut Inclination	64°	66°
32.9	Hardness	60 HRC	64 HRC
32.10	Rake Angle	-7^0	-12^0
32.11	Type of Cut	Double Cut	

33 File - Round, Second Cut, 250 mm with Handle

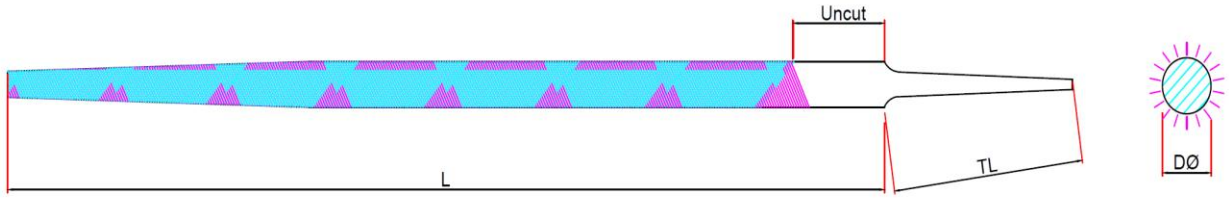
33.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
33.2	Generally conforming to IS 1931-2000		
33.3	Body Length (L)	247	253
33.4	Tang Length (TL)	68	72
33.5	Diameter (Ø)	9.4	9.6
33.6	No. of Upcut / Inch	24	26
33.7	Upcut inclination	49^o	51^o
33.8	Overcut Inclination	64^o	66^o
33.9	Hardness	60 HRC	64 HRC
33.10	Rake Angle	-7^0	-12^0
33.11	Type of Cut	Double Cut	

34 File - Round, Smooth, 150 mm with Handle

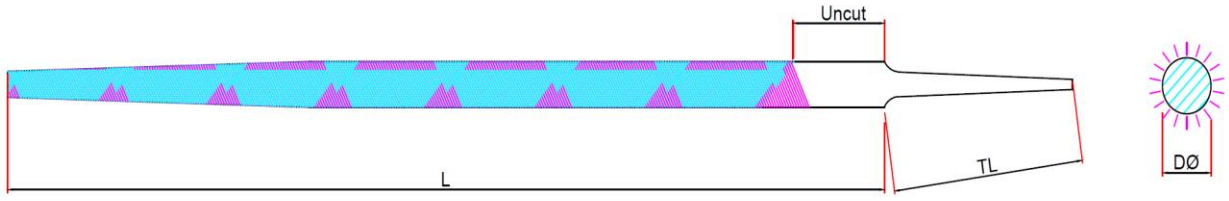
34.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
34.2	Generally conforming to IS 1931-2000		
34.3	Body Length (L)	148	152
34.4	Tang Length (TL)	48	52
34.5	Diameter (Ø)	5.8	6.2
34.6	No. of Upcut / Inch	47	48
34.7	Upcut inclination	49^o	51^o
34.8	Overcut Inclination	64^o	66^o
34.9	Hardness	60 HRC	64 HRC
34.10	Rake Angle	-7^0	-12^0
34.11	Type of Cut	Double Cut	

35 File - Round, Smooth, 200 mm with Handle

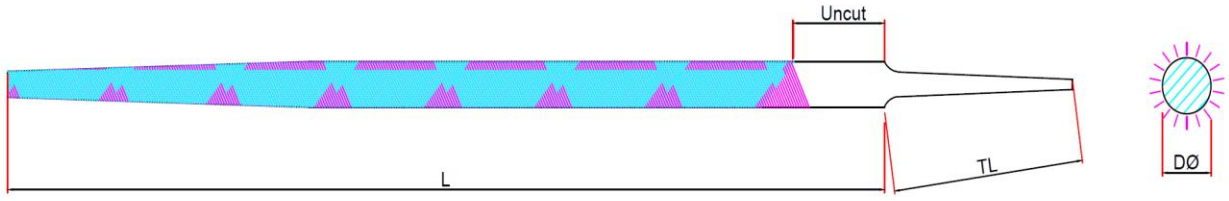
35.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
35.2	Generally conforming to IS 1931-2000		
35.3	Body Length (L)	197	203
35.4	Tang Length (TL)	58	62
35.5	Diameter (Ø)	7.4	7.6
35.6	No. of Upcut / Inch	40	42
35.7	Upcut inclination	49^o	51^o
35.8	Overcut Inclination	64^o	66^o
35.9	Hardness	60 HRC	64 HRC
35.10	Rake Angle	-7^0	-12^0
35.11	Type of Cut	Double Cut	

36 File - Round, Smooth, 250 mm with Handle

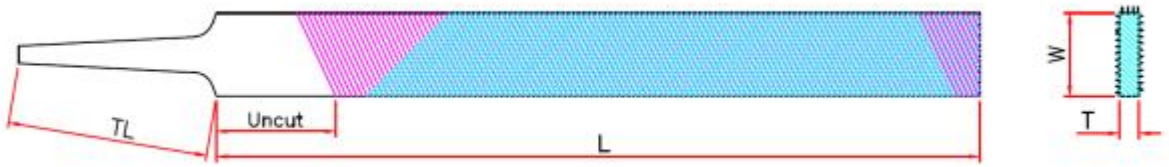
36.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
36.2	Generally conforming to IS 1931-2000		
36.3	Body Length (L)	248	252
36.4	Tang Length (TL)	68	72
36.5	Diameter (Ø)	9.4	9.6
36.6	No. of Upcut / Inch	40	41
36.7	Upcut inclination	49^o	51^o
36.8	Overcut Inclination	64^o	66^o
36.9	Hardness	60 HRC	64 HRC
36.10	Rake Angle	-7^0	-12^0
36.11	Type of Cut	Double Cut	

37 File - Safe Edge Hand, Second Cut, 200 mm with Handle

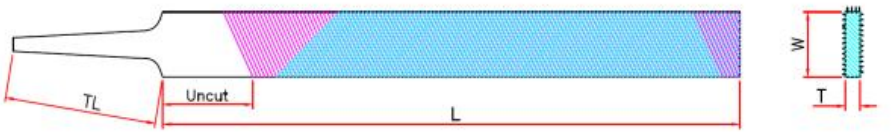
37.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
37.2	Generally conforming to IS 1931-2000		
37.3	Body Length (L)	198	202
37.4	Tang Length (TL)	58	62
37.5	Width (W)	20.4	20.6
37.6	Thickness (T)	4.8	5.2
37.7	No. of Upcut / Inch	31	32
37.8	Upcut inclination	49^o	51^o
37.9	Overcut Inclination	64^o	66^o
37.10	Edge cut Inclination	89^o	91^o
37.11	Hardness	60 HRC	64 HRC
37.12	Rake Angle	-7^0	-12^0
37.13	Type of Cut	Double Cut	

38 File - Safe Edge Hand, Second Cut, 250 mm with Handle

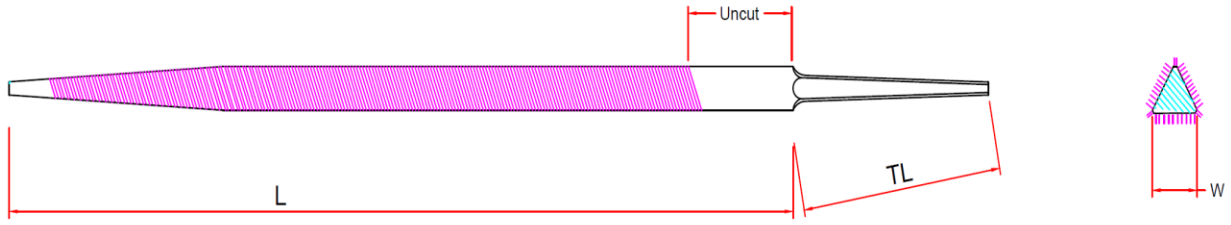
38.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
38.2	Generally conforming to IS 1931-2000		
38.3	Body Length (L)	247	253
38.4	Tang Length (TL)	68	72
38.5	Width (W)	24.8	25.2
38.6	Thickness (T)	5.8	6.2
38.7	No. of Upcut / Inch	27	28
38.8	Upcut inclination	49^o	51^o
38.9	No. of Edge cut / Inch	Safe Edge	Safe edge
38.10	Edge cut Inclination (on one edge only)	89^o	91^o
38.11	Overcut inclination	64^o	66^o
38.12	Hardness	60 HRC	64 HRC
38.13	Rake Angle	-7^0	-12^0
38.14	Type of Cut	Double Cut	

39 File - Slim Taper, 100 mm with Handle

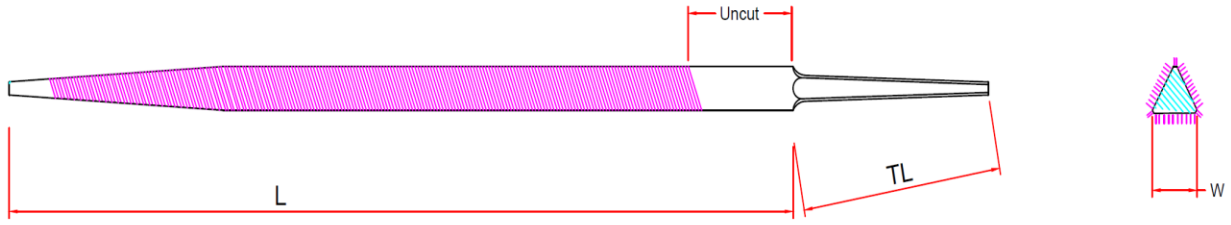
39.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
39.2	Generally conforming to IS 1931-2000		
39.3	Body Length (L)	97	103
39.4	Tang Length (TL)	35	39
39.5	Width (W)	5.5	5.7
39.6	No. of Upcut / Inch	58	59
39.7	Upcut inclination	49^{o}	51^{o}
39.8	Hardness	60 HRC	64 HRC
39.9	Rake Angle	-7^{0}	-12^{0}
39.10	Type of Cut	Double Cut	

40 File - Slim Taper, 150 mm with Handle

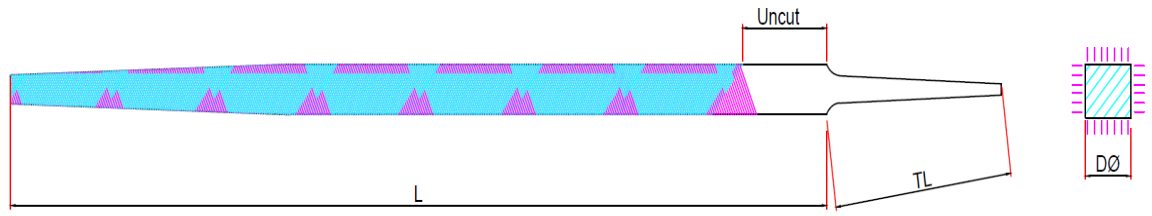
40.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
40.2	Generally conforming to IS 1931-2000		
40.3	Body Length (L)	148	152
40.4	Tang Length (TL)	42	43
40.5	Width (W)	8.20	8.50
40.6	No. of Upcut / Inch	51	52
40.7	Upcut inclination	49^{o}	51^{o}
40.8	Hardness	60 HRC	64 HRC
40.9	Rake Angle	-7^{0}	-12^{0}
40.10	Type of Cut	Double Cut	

41 File - Square, Bastard, 150 mm with Handle

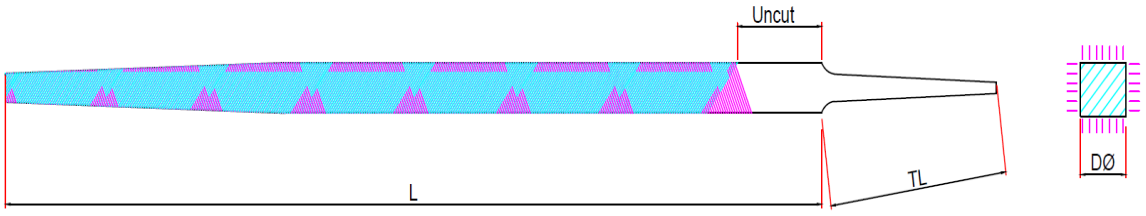
41.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
41.2	Generally conforming to IS 1931-2000		
41.3	Body Length (L)	148	152
41.4	Tang Length (TL)	48	52
41.5	Square Side	5.8	6.2
41.6	No. of Upcut / Inch	33	35
41.7	Upcut inclination	49^o	51^o
41.8	Overcut Inclination	64^o	66^o
41.9	Hardness	60 HRC	64 HRC
41.10	Rake Angle	-7^0	-12^0
41.11	Type of Cut	Double Cut	

42 File - Square, Bastard, 200 mm with Handle

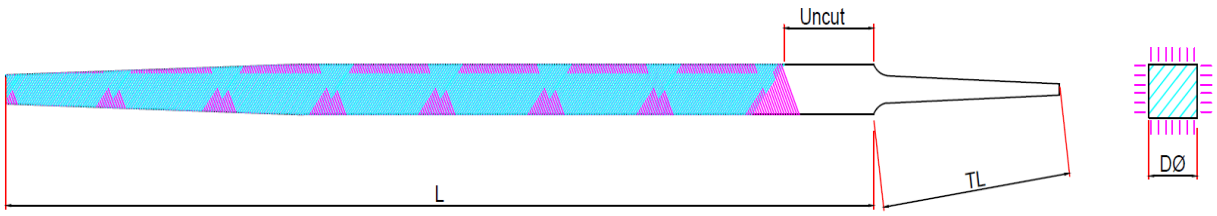
42.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
42.2	Generally conforming to IS 1931-2000		
42.3	Body Length (L)	197	203
42.4	Tang Length (TL)	58	62
42.5	Square Side	7.4	7.6
42.6	No. of Upcut / Inch	27	28
42.7	Upcut inclination	49^o	51^o
42.8	Overcut Inclination	64^o	66^o
42.9	Hardness	60 HRC	64 HRC
42.10	Rake Angle	-7^0	-12^0
42.11	Type of Cut	Double Cut	

43 File - Square, Bastard, 250 mm with Handle

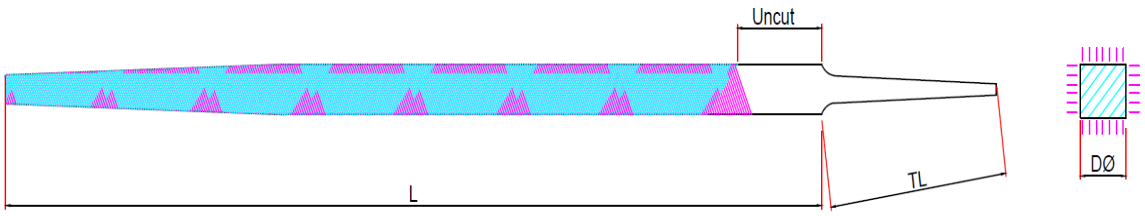
43.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
43.2	Generally conforming to IS 1931-2000		
43.3	Body Length (L)	248	252
43.4	Tang Length (TL)	68	72
43.5	Square Side	9.8	10.2
43.6	No. of Upcut / Inch	24	25
43.7	Upcut inclination	49^{o}	51^{o}
43.8	Overcut Inclination	64^{o}	66^{o}
43.9	Hardness	60 HRC	64 HRC
43.10	Rake Angle	-7^{0}	-12^{0}
43.11	Type of Cut	Double Cut	

44 File - Square, Second Cut, 150 mm with Handle

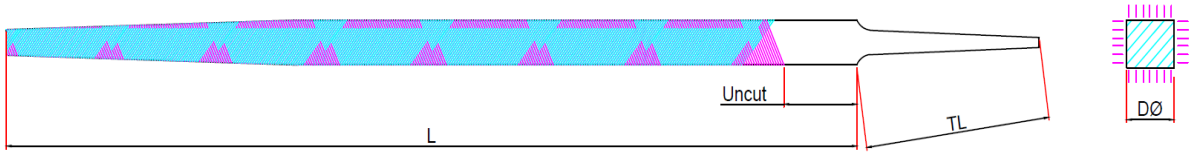
44.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
44.2	Generally conforming to IS 1931-2000		
44.3	Body Length (L)	147	153
44.4	Tang Length (TL)	48	52
44.5	Square Side	5.8	6.2
44.6	No. of Upcut / Inch	40	42
44.7	Upcut inclination	49^{o}	51^{o}
44.8	Overcut Inclination	64^{o}	66^{o}
44.9	Hardness	60 HRC	64 HRC
44.10	Rake Angle	-7^{0}	-12^{0}
44.11	Type of Cut	Double Cut	

45 File - Square, Second Cut, 200 mm with Handle

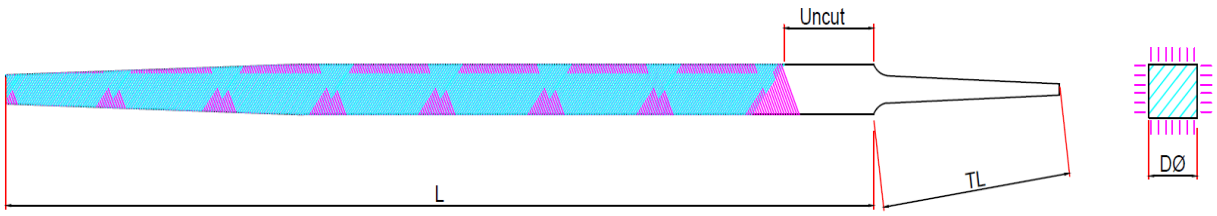
45.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
45.2	Generally conforming to IS 1931-2000		
45.3	Body Length (L)	198	202
45.4	Tang Length (TL)	58	62
45.5	Square Side	7.4	7.6
45.6	No. of Upcut / Inch	33	34
45.7	Upcut inclination	49^{o}	51^{o}
45.8	Overcut Inclination	64^{o}	66^{o}
45.9	Edge cut Inclination	89^{o}	91^{o}
45.10	Hardness	60 HRC	64 HRC
45.11	Rake Angle	-7^{0}	-12^{0}
45.12	Type of Cut	Double Cut	

46 File - Square, Second Cut, 250 mm with Handle

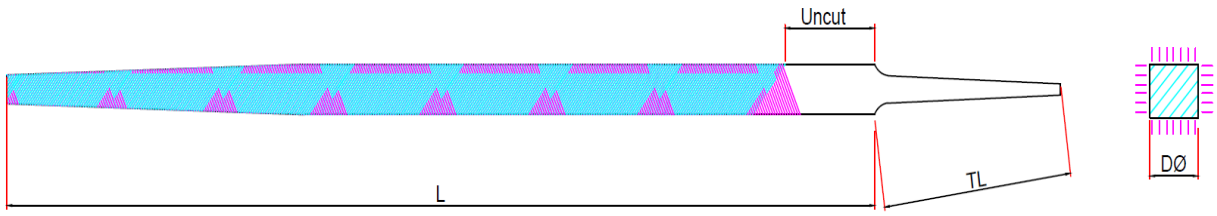
46.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
46.2	Generally conforming to IS 1931-2000		
46.3	Body Length (L)	247	253
46.4	Tang Length (TL)	68	72
46.5	Square Side	9.8	10.2
46.6	No. of Upcut / Inch	30	31
46.7	Upcut inclination	49^o	51^o
46.8	Overcut Inclination	64^o	66^o
46.9	Hardness	60 HRC	64 HRC
46.10	Rake Angle	-7^0	-12^0
46.11	Type of Cut	Double Cut	

47 File - Square, Smooth, 150 mm with Handle

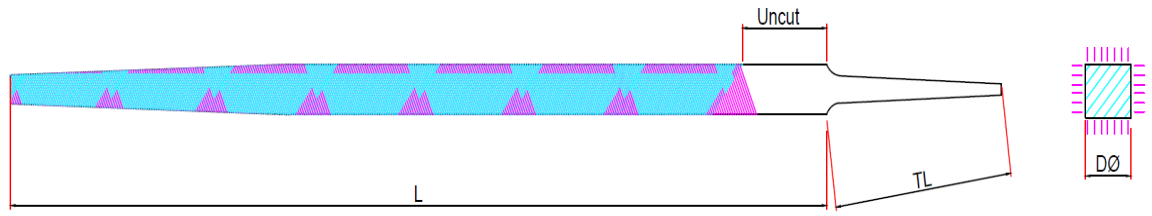
47.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
47.2	Generally conforming to IS 1931-2000		
47.3	Body Length (L)	148	152
47.4	Tang Length (TL)	48	52
47.5	Square Side	4.80	5.2
47.6	No. of Upcut / Inch	51	52
47.7	Upcut inclination	49^o	51^o
47.8	Overcut Inclination	64^o	66^o
47.9	Hardness	60 HRC	64 HRC
47.10	Rake Angle	-7^0	-12^0
47.11	Type of Cut	Double Cut	

48 File - Square, Smooth, 200 mm with Handle

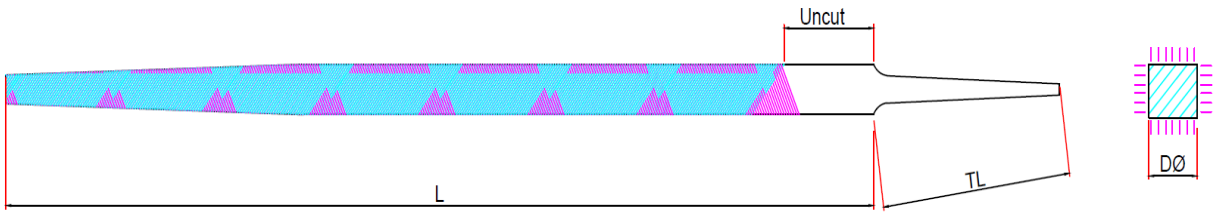
48.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
48.2	Generally conforming to IS 1931-2000		
48.3	Body Length (L)	197	203
48.4	Tang Length (TL)	58	62
48.5	Square Side	7.4	7.6
48.6	No. of Upcut / Inch	45	46
48.7	Upcut inclination	49^o	51^o
48.8	Overcut Inclination	64^o	66^o
48.9	Hardness	60 HRC	64 HRC
48.10	Rake Angle	-7^0	-12^0
48.11	Type of Cut	Double Cut	

49 File - Square, Smooth, 250 mm with Handle

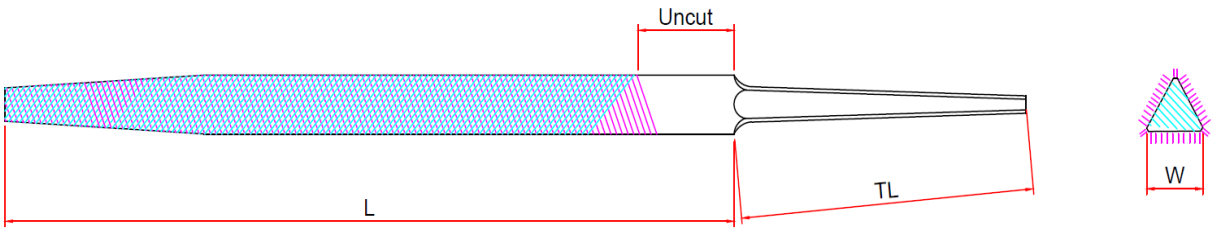
49.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
49.2	Generally conforming to IS 1931-2000		
49.3	Body Length (L)	248	252
49.4	Tang Length (TL)	68	72
49.5	Square Side	9.8	10.2
49.6	No. of Upcut / Inch	41	43
49.7	Upcut inclination	49^o	51^o
49.8	Overcut Inclination	64^o	66^o
49.9	Hardness	60 HRC	64 HRC
49.10	Rake Angle	-7^0	-12^0
49.11	Type of Cut	Double Cut	

50 File - Triangular, Bastard, 150 mm with Handle

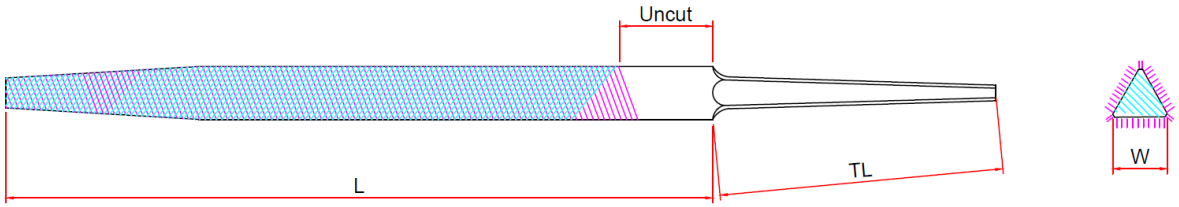
50.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
50.2	Generally conforming to IS 1931-2000		
50.3	Body Length (L)	147	153
50.4	Tang Length (TL)	48	52
50.5	Width	10.8	11.2
50.6	No. of Upcut / Inch	31	32
50.7	Upcut inclination	49^{o}	51^{o}
50.8	Overcut Inclination	64^{o}	66^{o}
50.9	Hardness	60 HRC	64 HRC
50.10	Rake Angle	-7^{0}	-12^{0}
50.11	Type of Cut	Double Cut	

51 File - Triangular, Bastard, 200 mm with Handle

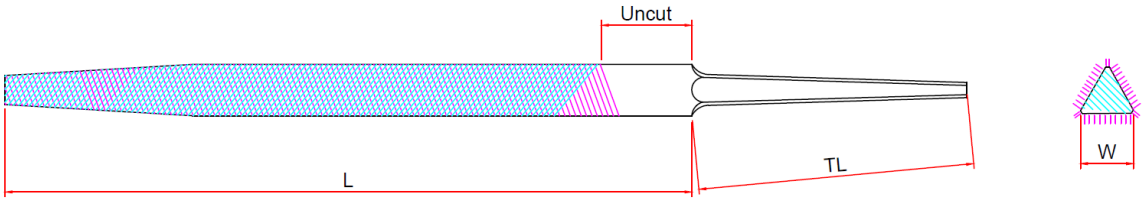
51.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
51.2	Generally conforming to IS 1931-2000		
51.3	Body Length (L)	197	203
51.4	Tang Length (TL)	58	62
51.5	Equilateral Triangle Side (W)	14.8	15.2
51.6	No. of Upcut / Inch	25	26
51.7	Upcut inclination	49^o	51^o
51.8	Over cut Inclination	64^o	66^o
51.9	Hardness	60 HRC	64 HRC
51.10	Rake Angle	-7^0	-12^0
51.11	Type of Cut	Double Cut	

52 File - Triangular, Bastard, 250 mm with Handle

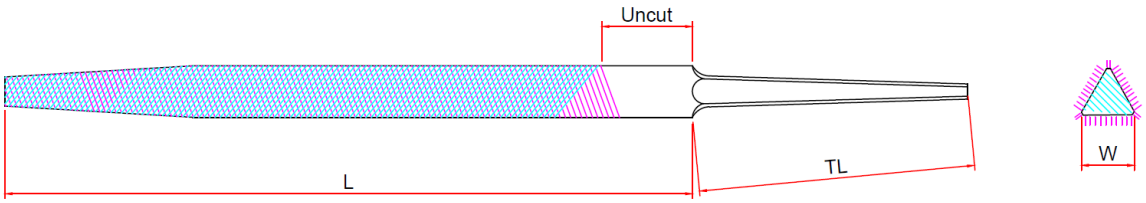
52.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
52.2	Generally conforming to IS 1931-2000		
52.3	Body Length (L)	247	253
52.4	Tang Length (TL)	68	72
52.5	Equilateral Triangle Side (W)	17.8	18.2
52.6	No. of Upcut / Inch	23	24
52.7	Upcut inclination	49^o	51^o
52.8	Over cut Inclination	64^o	66^o
52.9	Hardness	60 HRC	64 HRC
52.10	Rake Angle	-7^0	-12^0
52.11	Type of Cut	Double Cut	

53 File - Triangular, Second Cut, 150 mm with Handle

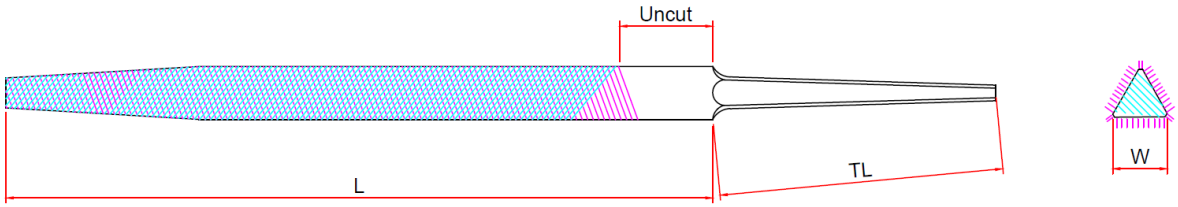
53.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
53.2	Generally conforming to IS 1931-2000		
53.3	Body Length (L)	147	153
53.4	Tang Length (TL)	48	52
53.5	Equilateral Triangle Side (W)	10.8	11.2
53.6	No. of Upcut / Inch	35	36
53.7	Upcut inclination	49^o	51^o
53.8	Over cut inclination	64^o	66^o
53.9	Edge cut Inclination	89^o	91^o
53.10	Hardness	60 HRC	64 HRC
53.11	Rake Angle	-7^o	-12^o
53.12	Type of Cut	Double Cut	

54 File - Triangular, Second Cut, 200 mm with Handle

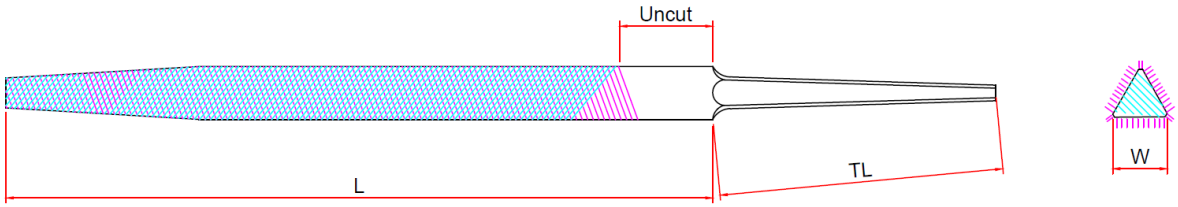
54.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
54.2	Generally conforming to IS 1931-2000		
54.3	Body Length (L)	197	203
54.4	Tang Length (TL)	58	62
54.5	Equilateral Triangle Side (W)	14.8	15.2
54.6	No. of Upcut / Inch	31	32
54.7	Upcut inclination	49^o	51^o
54.8	Over cut Inclination	64^o	66^o
54.9	Hardness	60 HRC	64 HRC
54.10	Rake Angle	-7^0	-12^0
54.11	Type of Cut	Double Cut	

55 File - Triangular, Second Cut, 250 mm with Handle

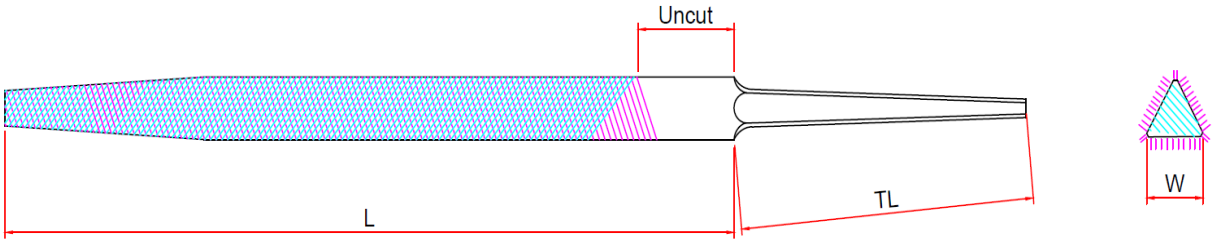
55.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
55.2	Generally conforming to IS 1931-2000		
55.3	Body Length (L)	247	253
55.4	Tang Length (TL)	68	72
55.5	Equilateral Triangle Side (W)	17.8	18.2
55.6	No. of Upcut / Inch	27	28
55.7	Upcut inclination	49^o	51^o
55.8	Over cut Inclination	64^o	66^o
55.9	Hardness	60 HRC	64 HRC
55.10	Rake Angle	-7^0	-12^0
55.11	Type of Cut	Double Cut	

56 File - Triangular, Smooth, 150 mm with Handle

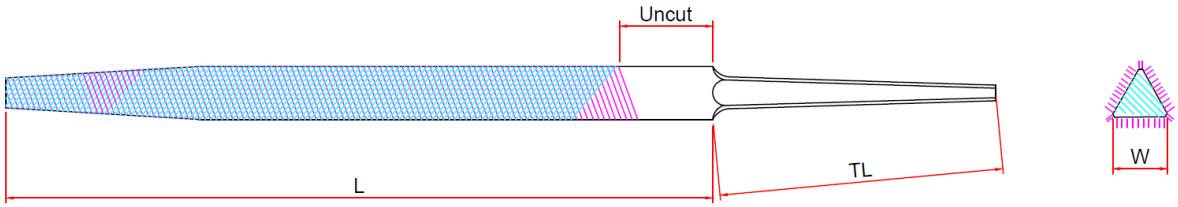
56.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
56.2	Generally conforming to IS 1931-2000		
56.3	Body Length (L)	147	153
56.4	Tang Length (TL)	48	52
56.5	Width (W)	10.8	11.2
56.6	No. of Upcut / Inch	49	51
56.7	Upcut inclination	49^o	51^o
56.8	Overcut Inclination	64^o	66^o
56.9	Hardness	60 HRC	64 HRC
56.10	Rake Angle	-7^0	-12^0
56.11	Type of Cut	Double Cut	

57 File - Triangular, Smooth, 200 mm with Handle

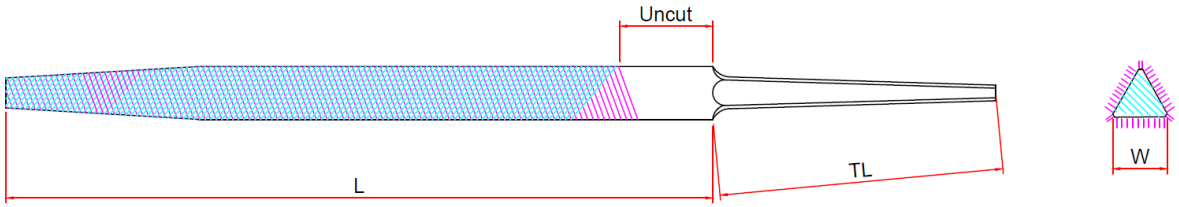
57.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
57.2	Generally conforming to IS 1931-2000		
57.3	Body Length (L)	197	203
57.4	Tang Length (TL)	58	62
57.5	Equilateral Triangle Side (W)	14.8	15.2
57.6	No. of Upcut / Inch	42	43
57.7	Upcut inclination	49^o	51^o
57.8	Over cut Inclination	64^o	66^o
57.9	Hardness	60 HRC	64 HRC
57.10	Rake Angle	-7^0	-12^0
57.11	Type of Cut	Double Cut	

58 File - Triangular, Smooth, 250 mm with Handle

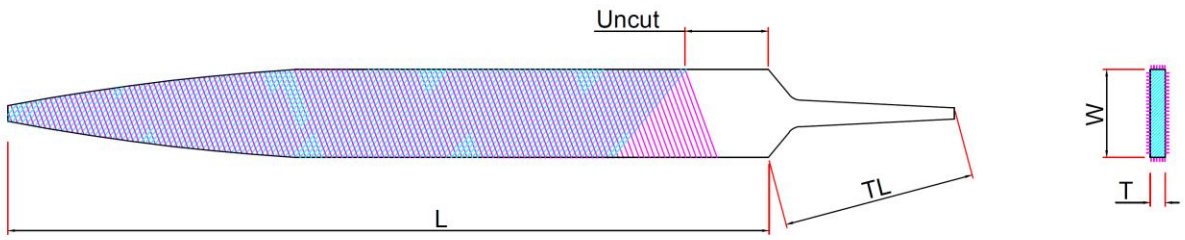
58.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
58.2	Generally conforming to IS 1931-2000		
58.3	Body Length (L)	247	253
58.4	Tang Length (TL)	68	72
58.5	Equilateral Triangle Side (W)	17.8	18.2
58.6	No. of Upcut / Inch	41	42
58.7	Upcut inclination	49^o	51^o
58.8	Over cut Inclination	64^o	66^o
58.9	Hardness	60 HRC	64 HRC
58.10	Rake Angle	-7^0	-12^0
58.11	Type of Cut	Double Cut	

59 File - Warding, Smooth, 150 mm with Handle

59.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
59.2	Generally conforming to IS 1931-2000		
59.3	Body Length (L)	148	152
59.4	Tang Length (TL)	48	52
59.5	Width (W)	15.8	16.2
59.6	Thickness (T)	1.55	1.65
59.7	No. of Upcut / Inch	51	62
59.8	Upcut inclination	49^o	51^o
59.9	Overcut Inclination	64^o	66^o
59.10	Edge cut Inclination	89^o	91^o
59.11	Hardness	60 HRC	64 HRC
59.12	Rake Angle	-7^0	-12^0
59.13	Type of Cut	Double Cut	

60 File - Needle, Barrette, 160 mm

60.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
60.2	Generally conforming to IS 3152-1980		
60.3	Total Length (L)	158	162
60.4	Tang Dia	3.0	3.4
60.5	Width (W)	5.1	5.9
60.6	Thickness (T)	2	2.4
60.7	Length of cut		
	60.7.1 0 Cut	45	55
	60.7.2 2 Cut	72	85
60.8	Upcut inclination	49^o	51^o
60.9	Overcut Inclination	64^o	66^o
60.10	Hardness	58 HRC	60 HRC

61 File - Needle, Crossing, 160 mm

61.1 Basic Indicative Diagram

		Range (In MM) From	To
61.2	Generally conforming to IS 3152-1980		
61.3	Total Length (L)	158	162
61.4	Tang Dia	3.0	3.4
61.5	Width (W)	5.15	5.95
61.6	Thickness (T)	1.8	2.2
61.7	No. of Upcut / Inch Etching		
	61.7.1 0 Cut	45	55
	61.7.2 2 Cut	72	85
61.8	Upcut inclination	49^o	51^o
61.9	Overcut Inclination	64^o	66^o
61.10	Hardness	60 HRC	64 HRC
61.11	Rake Angle	NA	NA

62 File - Needle, Flat, 160 mm

62.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
62.2	Generally conforming to IS 3152-1980		
62.3	Total Length (L)	158	162
62.4	Tang Dia	3.0	3.4
62.5	Width (W)	5.5	6.3
62.6	Thickness (T)	1.2	1.6
62.7	No. of Upcut / Inch Chisel Cut		
	62.7.1 0 Cut	45	55
	62.7.2 2 Cut	72	85
62.8	Upcut inclination	49^o	51^o
62.9	Overcut Inclination	64^o	66^o
62.10	Hardness	58 HRC	60 HRC

63 File - Needle, Half Round, 160 mm

63.1 Basic Indicative Diagram

63.2 Generally conforming to IS 3152-1980

		Range (In MM)	
		From	To
63.3	Total Length (L)	158	162
63.4	Tang Dia	3.0	3.4
63.5	Width (W)	5.2	6
63.6	Thickness (T)	1.6	2
63.7	No. of Upcut / Inch for Flat Side Chisel Cut (For Round Side Etching)		
	63.7.1 0 Cut	45	55
	63.7.2 2 Cut	72	85
63.8	Upcut inclination	49^{o}	51^{o}
63.9	Overcut Inclination	64^{o}	66^{o}
63.10	Hardness	58 HRC	60 HRC

64 File - Needle, Hand Tre, 160 mm

64.1 Basic Indicative Diagram

		Range (In MM) From	To
64.2	Generally conforming to IS 3152-1980		
64.3	Total Length (L)	158	162
64.4	Tang Dia	3.0	3.4
64.5	Width (W)	5.4	6.2
64.6	Thickness (T)	1.3	1.7
64.7	No. of Upcut / Inch Chisel Cut (Only edge cutting)		
	64.7.1 0 Cut	45	55
	64.7.2 2 Cut	72	85
64.8	Upcut inclination (Only edge cutting)	49^o	51^o
64.9	Overcut Inclination (Only edge cutting)	64^o	66^o
64.10	Hardness	58 HRC	60 HRC

65 File - Needle, Hand, 160 mm

65.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
65.2	Generally conforming to IS 3152-1980		
65.3	Total Length (L)	158	162
65.4	Tang Dia	3.0	3.4
65.5	Width (W)	5	5.8
65.6	Thickness (T)	1.4	1.8
65.7	No. of Upcut / Inch Chisel cut		
	65.7.1 0 Cut	45	55
	65.7.2 2 Cut	72	85
65.8	Upcut inclination	49^o	51^o
65.9	Overcut Inclination	64^o	66^o
65.10	Hardness	58 HRC	60 HRC

66 File - Needle, Knife, 160 mm

66.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
66.2	Generally conforming to IS 3152-1980		
66.3	Total Length (L)	158	162
66.4	Tang Dia	3.0	3.4
66.5	Width (W)	5.45	6.35
66.6	Thickness (T)	2	2.4
66.7	No. of Upcut / Inch Chisel Cut		
	66.7.1 0 Cut	45	55
	66.7.2 2 Cut	72	85
66.8	Upcut inclination	49^o	51^o
66.9	Overcut Inclination	64^o	66^o
66.10	Hardness	58 HRC	60 HRC

67 File - Needle, Marking, 160 mm

67.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
67.2	Generally conforming to IS 3152-1980		
67.3	Total Length (L)	158	162
67.4	Tang Dia	3.0	3.4
67.5	Width (W)	5.4	6.2
67.6	Thickness (T)	1.55	1.95
67.7	No. of Upcut / Inch Etching (Cutting on Round side flat side no cutting)		
	67.7.1 0 Cut	45	55
	67.7.2 2 Cut	72	85
67.8	Upcut inclination (Cutting on Round side flat side no cutting)	49^{o}	51^{o}
67.9	Overcut Inclination (Cutting on Round side flat side no cutting)	64^{o}	66^{o}
67.10	Hardness	58 HRC	60 HRC

68 File - Needle, Round, 160 mm

68.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
68.2	Generally conforming to IS 3152-1980		
68.3	Total Length (L)	158	162
68.4	Tang Dia	3.0	3.4
68.5	Body Dia	2.9	3.7
68.6	No. of Upcut / Inch Etching		
	68.6.1 0 Cut	45	55
	68.6.2 2 Cut	72	85
68.7	Upcut inclination	49^{o}	51^{o}
68.8	Overcut Inclination	64^{o}	66^{o}
68.9	Hardness	58 HRC	60 HRC

69 File - Needle, Slitting, 160 mm

69.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
69.2	Generally conforming to IS 3152-1980		
69.3	Total Length (L)	158	162
69.4	Tang Dia	3.0	3.4
69.5	Width (W)	5.55	6.35
69.6	Thickness (T)	2	2.4
69.7	No. of Upcut / Inch Chisel Cut		
	69.7.1 0 Cut	45	55
	69.7.2 2 Cut	72	85
69.8	Upcut inclination	49^o	51^o
69.9	Overcut Inclination	64^o	66^o
69.10	Hardness	58 HRC	60 HRC

70 File - Needle, Square, 160 mm

70.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
70.2	Generally conforming to IS 3152-1980		
70.3	Total Length (L)	158	162
70.4	Tang Dia	3.0	3.4
70.5	Width (W)	2.5	3.3
70.6	No. of Upcut / Inch Chisel Cut		
	70.6.1 0 Cut	45	55
	70.6.2 2 Cut	72	85
70.7	Upcut inclination	49^{o}	51^{o}
70.8	Overcut Inclination	64^{o}	66^{o}
70.9	Hardness	58 HRC	60 HRC

71 File - Needle, Triangular, 160 mm

71.1 Basic Indicative Diagram

		Range (In MM)	
		From	To
71.2	Generally conforming to IS 3152-1980		
71.3	Total Length (L)	158	162
71.4	Tang Dia	3.0	3.4
71.5	Width (W)	3.5	4.3
71.6	No. of Upcut / Inch Chisel Cut		
	71.6.1 0 Cut	45	55
	71.6.2 2 Cut	72	85
71.7	Upcut inclination	49^o	51^o
71.8	Overcut Inclination	64^o	66^o
71.9	Hardness	58 HRC	60 HRC

72 File Set - Needle, 160 mm, Set of 12

72.1 Basic Indicative Diagram

72.2 Set consists of following 12 Needle Files:

- 72.2.1 File - Needle, Barrette, 160 mm
- 72.2.2 File - Needle, Crossing, 160 mm
- 72.2.3 File - Needle, Flat, 160 mm
- 72.2.4 File - Needle, Half Round, 160 mm
- 72.2.5 File - Needle, Hand Tre, 160 mm
- 72.2.6 File - Needle, Hand, 160 mm
- 72.2.7 File - Needle, Knife, 160 mm
- 72.2.8 File - Needle, Marking, 160 mm
- 72.2.9 File - Needle, Round, 160 mm
- 72.2.10 File - Needle, Slitting, 160 mm
- 72.2.11 File - Needle, Square, 160 mm
- 72.2.12 File - Needle, Triangular, 160 mm

72.3 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

72.4 Packaging:

- 72.4.1 Box made of Metal/ Wood/ Plastic
- 72.4.2 Each file to be placed in box in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 72.4.3 In case of metal box, it should be painted/ powder coated to provide resistance to corrosion and protect files from environmental factors.
- 72.4.4 Box should have a compact design for easy storage and transportation
- 72.4.5 Box should be able to carry the weight of the file set comfortably.

73 File Set - Needle, 160 mm, Set of 6 with Soft Grip

73.1 Basic Indicative Diagram

73.2 Set consists of following 6 Needle Files with Soft Grip:
- 73.2.1 File - Needle, Flat, 160 mm
- 73.2.2 File - Needle, Half Round, 160 mm
- 73.2.3 File - Needle, Hand, 160 mm
- 73.2.4 File - Needle, Round, 160 mm
- 73.2.5 File - Needle, Square, 160 mm
- 73.2.6 File - Needle, Triangular, 160 mm

73.3 Each File to be fitted with Soft Grip handle.

73.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

73.5 Packaging:
- 73.5.1 Box made of Metal/ Wood/ Plastic
- 73.5.2 Each file to be placed in box in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 73.5.3 In case of metal box, it should be painted/ powder coated to provide resistance to corrosion or the metal used must be corrosion free. The Box should protect files from environmental factors.
- 73.5.4 Box should have a compact design for easy storage and transportation.
- 73.5.5 Box should be able to carry the weight of the file set comfortably.

74 File Set - Bastard, 150 mm, Set of 5 (Flat, Half Round, Round, Square, Triangular)

74.1 Basic Indicative Diagram

74.2 Set consists of following 5 Files:
- 74.2.1 File - Flat, Bastard, 150 mm with Handle
- 74.2.2 File - Half Round, Bastard, 150 mm with Handle
- 74.2.3 File - Round, Bastard, 150 mm with Handle
- 74.2.4 File - Square, Bastard, 150 mm with Handle
- 74.2.5 File - Triangular, Bastard, 150 mm with Handle

74.3 Each file to be fitted with Dual Component Handle.

74.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

74.5 Packaging:
- 74.5.1 Suitable high quality plastic pouch.
- 74.5.2 Each file to be placed in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 74.5.3 Should have a compact design for easy storage and transportation.
- 74.5.4 Package should be able to carry the weight of the file set comfortably.
- 74.5.5 Transparent material on one side to allow quick identification of content.

75 File Set - Bastard, 200 mm, Set of 5 (Flat, Half Round, Round, Square, Triangular)

75.1 Basic Indicative Diagram

75.2 Set consists of following 5 Files:
- 75.2.1 File - Flat, Bastard, 200 mm with Handle
- 75.2.2 File - Half Round, Bastard, 200 mm with Handle
- 75.2.3 File - Round, Bastard, 200 mm with Handle
- 75.2.4 File - Square, Bastard, 200 mm with Handle
- 75.2.5 File - Triangular, Bastard, 200 mm with Handle

75.3 Each file to be fitted with Dual Component Handle.

75.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

75.5 Packaging:
- 75.5.1 Suitable high quality plastic pouch.
- 75.5.2 Each file to be placed in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 75.5.3 Should have a compact design for easy storage and transportation.
- 75.5.4 Package should be able to carry the weight of the file set comfortably.
- 75.5.5 Transparent material on one side to allow quick identification of content.

76 File Set - Bastard, 250 mm, Set of 5 (Flat, Half Round, Round, Square, Triangular)

76.1 Basic Indicative Diagram

76.2 Set consists of following 5 Files:
- 76.2.1 File - Flat, Bastard, 250 mm with Handle
- 76.2.2 File - Half Round, Bastard, 250 mm with Handle
- 76.2.3 File - Round, Bastard, 250 mm with Handle
- 76.2.4 File - Square, Bastard, 250 mm with Handle
- 76.2.5 File - Triangular, Bastard, 250 mm with Handle

76.3 Each file to be fitted with Dual Component Handle.

76.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

76.5 Packaging:
- 76.5.1 Suitable high quality plastic pouch.
- 76.5.2 Each file to be placed in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 76.5.3 Should have a compact design for easy storage and transportation.
- 76.5.4 Package should be able to carry the weight of the file set comfortably.
- 76.5.5 Transparent material on one side to allow quick identification of content.

77 File Set - Second Cut, 150 mm, Set of 5 (Flat, Half Round, Round, Square, Triangular)

77.1 Basic Indicative Diagram

77.2 Set consists of following 5 Files:
- 77.2.1 File - Flat, Second Cut, 150 mm with Handle
- 77.2.2 File - Half Round, Second Cut, 150 mm with Handle
- 77.2.3 File - Round, Second Cut, 150 mm with Handle
- 77.2.4 File - Square, Second Cut, 150 mm with Handle
- 77.2.5 File - Triangular, Second Cut, 150 mm with Handle

77.3 Each file to be fitted with Dual Component Handle.

77.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

77.5 Packaging:
- 77.5.1 Suitable high quality plastic pouch.
- 77.5.2 Each file to be placed in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 77.5.3 Should have a compact design for easy storage and transportation.
- 77.5.4 Package should be able to carry the weight of the file set comfortably.
- 77.5.5 Transparent material on one side to allow quick identification of content.

78 File Set - Second Cut, 200 mm, Set of 5 (Flat, Half Round, Round, Square, Triangular)

78.1 Basic Indicative Diagram

78.2 Set consists of following 5 Files:
- 78.2.1 File - Flat, Second Cut, 200 mm with Handle
- 78.2.2 File - Half Round, Second Cut, 200 mm with Handle
- 78.2.3 File - Round, Second Cut, 200 mm with Handle
- 78.2.4 File - Square, Second Cut, 200 mm with Handle
- 78.2.5 File - Triangular, Second Cut, 200 mm with Handle

78.3 Each file to be fitted with Dual Component Handle.

78.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

78.5 Packaging:
- 78.5.1 Suitable high quality plastic pouch.
- 78.5.2 Each file to be placed in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 78.5.3 Should have a compact design for easy storage and transportation.
- 78.5.4 Package should be able to carry the weight of the file set comfortably.
- 78.5.5 Transparent material on one side to allow quick identification of content.

79 File Set - Second Cut, 250 mm, Set of 5 (Flat, Half Round, Round, Square, Triangular)

79.1 Basic Indicative Diagram

79.2 Set consists of following 5 Files:
- 79.2.1 File - Flat, Second Cut, 250 mm with Handle
- 79.2.2 File - Half Round, Second Cut, 250 mm with Handle
- 79.2.3 File - Round, Second Cut, 250 mm with Handle
- 79.2.4 File - Square, Second Cut, 250 mm with Handle
- 79.2.5 File - Triangular, Second Cut, 250 mm with Handle

79.3 Each file to be fitted with Dual Component Handle.

79.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

79.5 Packaging:
- 79.5.1 Suitable high quality plastic pouch.
- 79.5.2 Each file to be placed in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 79.5.3 Should have a compact design for easy storage and transportation.
- 79.5.4 Package should be able to carry the weight of the file set comfortably.
- 79.5.5 Transparent material on one side to allow quick identification of content.

80 File Set - Smooth, 150 mm, Set of 5 (Flat, Half Round, Round, Square, Triangular)

80.1 Basic Indicative Diagram

80.2 Set consists of following 5 Files:
- 80.2.1 File - Flat, Smooth, 150 mm with Handle
- 80.2.2 File - Half Round, Smooth, 150 mm with Handle
- 80.2.3 File - Round, Smooth, 150 mm with Handle
- 80.2.4 File - Square, Smooth, 150 mm with Handle
- 80.2.5 File - Three Square, Smooth, 150 mm with Handle

80.3 Each file to be fitted with Dual Component Handle.

80.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

80.5 Packaging:
- 80.5.1 Suitable high quality plastic pouch.
- 80.5.2 Each file to be placed in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 80.5.3 Should have a compact design for easy storage and transportation.
- 80.5.4 Package should be able to carry the weight of the file set comfortably.
- 80.5.5 Transparent material on one side to allow quick identification of content.

81 File Set - Smooth, 200 mm, Set of 5 (Flat, Half Round, Round, Square, Triangular)

81.1 Basic Indicative Diagram

81.2 Set consists of following 5 Files:
- 81.2.1 File - Flat, Smooth, 200 mm with Handle
- 81.2.2 File - Half Round, Smooth, 200 mm with Handle
- 81.2.3 File - Round, Smooth, 200 mm with Handle
- 81.2.4 File - Square, Smooth, 200 mm with Handle
- 81.2.5 File - Three Square, Smooth, 200 mm with Handle

81.3 Each file to be fitted with Dual Component Handle.

81.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

81.5 Packaging:
- 81.5.1 Suitable high quality plastic pouch.
- 81.5.2 Each file to be placed in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 81.5.3 Should have a compact design for easy storage and transportation.
- 81.5.4 Package should be able to carry the weight of the file set comfortably.
- 81.5.5 Transparent material on one side to allow quick identification of content.

82 File Set - Smooth, 250 mm, Set of 5 (Flat, Half Round, Round, Square, Triangular)

82.1 Basic Indicative Diagram

82.2 Set consists of following 5 Files:
- 82.2.1 File - Flat, Smooth, 250 mm with Handle
- 82.2.2 File - Half Round, Smooth, 250 mm with Handle
- 82.2.3 File - Round, Smooth, 250 mm with Handle
- 82.2.4 File - Square, Smooth, 250 mm with Handle
- 82.2.5 File - Three Square, Smooth, 250 mm with Handle

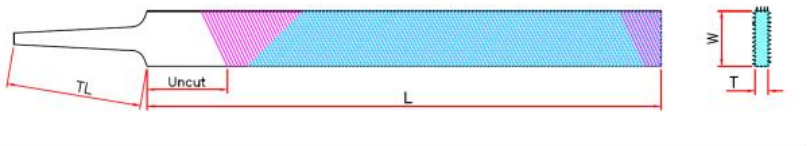
82.3 Each file to be fitted with Dual Component Handle.

82.4 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

82.5 Packaging:
- 82.5.1 Suitable high quality plastic pouch.
- 82.5.2 Each file to be placed in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 82.5.3 Should have a compact design for easy storage and transportation.
- 82.5.4 Package should be able to carry the weight of the file set comfortably.
- 82.5.5 Transparent material on one side to allow quick identification of content.

83 Key File - Hand, 100 mm with Wooden Grip

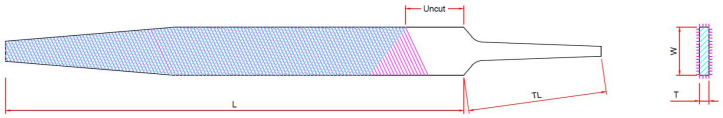
83.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
83.2	Generally conforming to Standard DIN 7283		
83.3	Tang Length (A)	38	42
83.4	Body Length (B)	97	103
83.5	Width (C)	10	10.5
83.6	Thickness (D)	1.4	1.6
83.7	Edge Cut	55	56
83.8	Flat Side Overcut	45	46
83.9	Flat Side Upcut	55	56
83.10	F/S Overcut	50°	50°
83.11	F/S Upcut	70°	70°
83.12	Uncut (E)	12	13
83.13	Hardness (HRC)	60	64

84 Key File - Flat, 100 mm with Wooden Grip

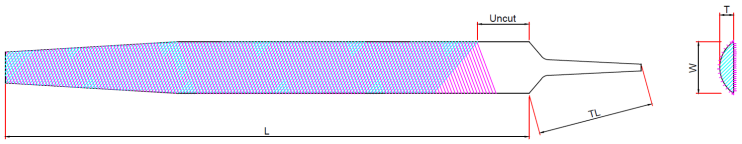
84.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
84.2	Generally conforming to Standard DIN 7283		
84.3	Tang Length (A)	38	42
84.4	Body Length (B)	97	103
84.5	Width (C)	10	10.5
84.6	Thickness (D)	1.4	1.6
84.7	Edge Cut	55	56
84.8	Flat Side Overcut	45	46
84.9	Flat Side Upcut	55	56
84.10	F/S Overcut	50°	50°
84.11	F/S Upcut	70°	70°
84.12	Hardness (HRC)	60	64

85 Key File - Half Round, 100 mm with Wooden Grip

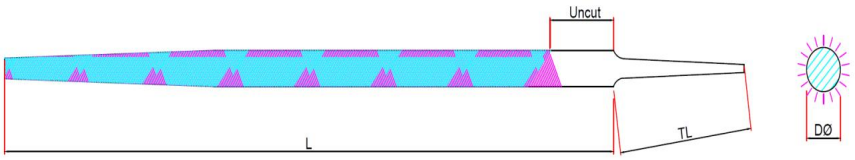
85.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
85.2	Generally conforming to Standard DIN 7283		
85.3	Tang Length (A)	58	62
85.4	Body Length (B)	97	103
85.5	Width (C)	9.4	9.8
85.6	Thickness (D)	3.4	3.8
85.7	Round Side Overcut	45	46
85.8	Round Side Upcut	55	56
85.9	Flat Side Overcut	45	46
85.10	Flat Side Upcut	55	56
85.11	R/S Overcut	50°	50°
85.12	R/S Upcut	70°	70°
85.13	F/S Overcut	50°	50°
85.14	F/S Upcut	70°	70°
85.15	Hardness (HRC)	60	64

86 Key File - Round, 100 mm with Wooden Grip

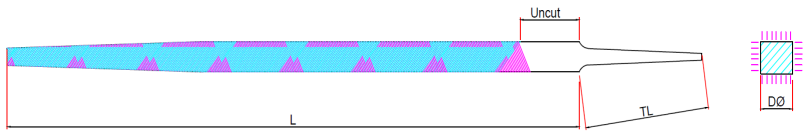
86.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
86.2	Generally conforming to Standard DIN 7283		
86.3	Tang Length (A)	58	62
86.4	Body Length (B)	97	103
86.5	Thickness (D)	3.6	4.0
86.6	Round Side Overcut	45	46
86.7	Round Side Upcut	55	56
86.8	R/S Overcut	50°	50°
86.9	R/S Upcut	70°	70°
86.10	Hardness (HRC)	60	64

87 Key File - Square, 100 mm with Wooden Grip

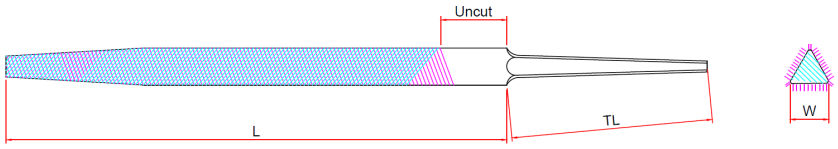
87.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
87.2	Generally conforming to Standard DIN 7283		
87.3	Tang Length (A)	58	62
87.4	Body Length (B)	97	103
87.5	Width (C)	3.4	3.8
87.6	Flat Side Overcut	45	46
87.7	Flat Side Upcut	55	56
87.8	F/S Overcut	50°	50°
87.9	F/S Upcut	70°	70°
87.10	Hardness (HRC)	60	64

88 Key File - Triangular, 100 mm with Wooden Grip

88.1 Basic Indicative Diagram



		Range (In MM)	
		From	To
88.2	Generally conforming to Standard DIN 7283		
88.3	Tang Length (A)	58	62
88.4	Body Length (B)	97	103
88.5	Width (C)	5.8	6.2
88.6	Thickness (D)	3.2	3.2
88.7	Flat Side Overcut	45	46
88.8	Flat Side Upcut	55	56
88.9	F/S Overcut	50°	50°
88.10	F/S Upcut	70°	70°
88.11	Hardness (HRC)	60	64

89 Key File Set - General Purpose, 100 mm, Set of 6 with Wooden Grip

89.1 Basic Indicative Diagram

89.2 Set consists of following 6 Needle Files with Wooden Grip:

- 89.2.1 Key File - Hand, 100 mm with Wooden Grip
- 89.2.2 Key File - Flat, 100 mm with Wooden Grip
- 89.2.3 Key File - Half Round, 100 mm with Wooden Grip
- 89.2.4 Key File - Round, 100 mm with Wooden Grip
- 89.2.5 Key File - Square, 100 mm with Wooden Grip
- 89.2.6 Key File - Triangular, 100 mm with Wooden Grip

89.3 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

89.4 Each File to be fitted with Wooden Grip handle

89.5 Packaging:

- 89.5.1 Box made of Metal/ Wood/ Plastic
- 89.5.2 Each file to be placed in box in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users
- 89.5.3 In case of metal box, it should be painted/ powder coated to provide resistance to corrosion or the metal used must be corrosion free. The Box should protect files from environmental factors.
- 89.5.4 Box should have a compact design for easy storage and transportation.
- 89.5.5 Box should be able to carry the weight of the file set comfortably.

90 File Set - Mechanic Motor Vehicle, Set of 20

90.1 Basic Indicative Diagram

90.2 Set consists of following 21 No.s of assorted Files

90.2.1	File - Car Body, Bastard Cut without Tang, 300 mm with Handle	2 Qty.
90.2.2	File - Dread Naught, Bastard, 300 mm with Handle	2 Qty.
90.2.3	File - Flat, Aluminium, 200 mm with Handle	1 Qty.
90.2.4	File - Flat, Aluminium, 300 mm with Handle	1 Qty.
90.2.5	File - Safe Edge Hand, Second Cut, 200 mm with Handle	1 Qty.
90.2.6	File - Flat, Smooth, 200 mm with Handle	1 Qty
90.2.7	File Set - Needle, 160 mm, Set of 6 with Soft Grip in a Box	
90.2.7.1	File - Needle, Flat, 160 mm	1 Qty
90.2.7.2	File - Needle, Half Round, 160 mm	1 Qty
90.2.7.3	File - Needle, Hand, 160 mm	1 Qty
90.2.7.4	File - Needle, Round, 160 mm	1 Qty
90.2.7.5	File - Needle, Square, 160 mm	1 Qty
90.2.7.6	File - Needle, Triangular, 160 mm	1 Qty
90.2.8	Key File Set - General Purpose, 100 mm, Set of 6 with Wooden Grip in a Box	
90.2.8.1	Key File - Hand, 100 mm with Wooden Grip	1 Qty
90.2.8.2	Key File - Flat, 100 mm with Wooden Grip	1 Qty
90.2.8.3	Key File - Half Round, 100 mm with Wooden Grip	1 Qty
90.2.8.4	Key File - Round, 100 mm with Wooden Grip	1 Qty
90.2.8.5	Key File - Square, 100 mm with Wooden Grip	1 Qty
90.2.8.6	Key File - Triangular, 100 mm with Wooden Grip	1 Qty

90.3 Each individual File should comply with the specification prescribed for that item by purchaser in latest specification document.

90.4 Each File to be fitted with appropriate handle as mentioned in the specification of individual File.

90.5 Packaging:

90.5.1 Plastic Molded Tool Box.

90.5.2 Each file to be placed in box in such a way to be separated from each other to prevent damage from clashing, ensure protection, accessibility and convenience for users

90.5.3 Box should have a compact design for easy storage and transportation

90.5.4 Box should be able to carry the weight of the file set comfortably.

91 Dual Component Handle

91.1 Each File must be provided with a Dual Component Handle as per the following details.

91.2 Basic Indicative Diagram:

91.1 Material (Inner Part): Poly Propylene Co Polymer (PPCP)

91.2 Material (Outer Part): Thermo Plastic Rubber (TPR)

91.3 The combination of PPCP (inner part) and TPR (outer part) should provide good strength and little elastic effect to the handle to prevent it from damage and gives fatigue free experience to the user.

91.4 Length: 90 mm to 120 mm (approx.) depending on the length of the File

91.5 Weight: 45 to 50 gm.(approx.)

91.6 Marking: Handle should be punched marked with DVET-MS

91.7 Color: Orange-Black/ Yellow-Black/ Blue-Black.