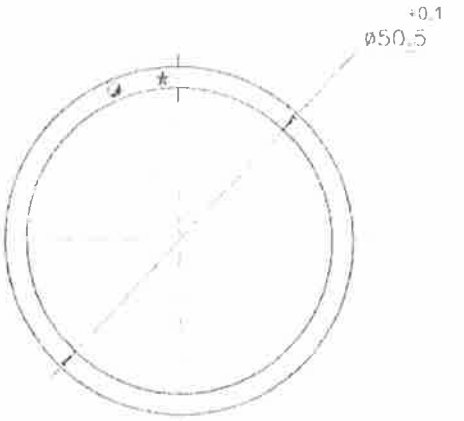

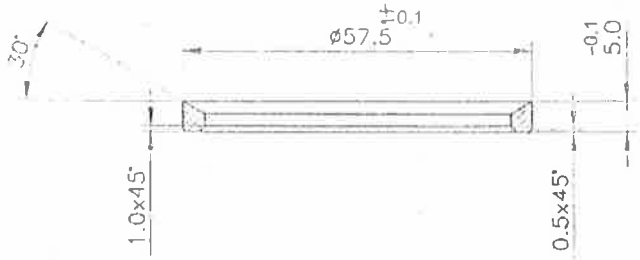

MARKING NOTES:-

THE FOLLOWING MARKINGS TO BE MARKED WITH PERMANENT MARKER IN 03 TO 06 MM LETTER SIZE ON THE TOP SURFACE BETWEEN Ø50.5 +0.1 AND Ø57.5 +0.1 :-

SERIAL NO. MANUFACTURE'S LOGO

PROTECTIVE FINISH:-,ZINC & CHROMATE 0.01 mm THICK TO IS:1573.

	10 APR 15	C 2,3	MARKING NOTES ADDED	ARD 2547	
	13-2-14		PROTECTIVE FINISH AMENDED	ARD 2153	
	08.09.09		DCA Nº ADDED	ARD 2396	
	02.06.09		APPROVED	DGNAI	
R.No	DATE	ZONE	BRIEF RECORD	AUTHORITY	INITIALS

SCALE:- 1:1	TOL.		DIMENSIONS ARE IN mm	ASSY DRG No. NASK 1071
DGN –	DRN	TCD –	COMP CHD CD	ASSY DRG LIST.
PASSED CTO(D)	APPD. DGNAI		THREADS TO CONFIRM IS:4218	DTE GEN OF NAVAL ARMAMENT INSPECTION IHQ,MOD (NAVY) N. DELHI
MATL:-STEEL			GEN SPEC :- IS:2102	
MATL SPEC:- BS:970 (Pt-I)-83 Gde 080 M40			STORE SPEC :-	
			STORE REF No.	
			GAUGE SCH No.	
PROTECTIVE FINISH:- SEE DRG			D.S. CAT No.	
			DCA Nº 5330386773	

GLAND

DRG No.

NASK 1071/6

(PROVISIONAL)

A-4

USED ON: ROCKET RG8-60

BASED ON:- CNAI(V) DRG NO NAI(V) 8010/6 DT 26.02.08

TRIM ON THIS LINE WHF SUPPLIED TO TRADE

QUALITY ASSURANCE PLAN FOR A/S ROCKET RGB 60 (EMPTY) MOD 1

Item Description	**GLAND**
Ref. Document	NASK 1071/6 (P)
Material	Steel to spec BS 970(Pt 3)-91 Gde 080 M40
Heat Treatment	Normalised

Component name/operations	Characteristics	Class	Type of check	Quantum of check	Reference document	Acceptance norms	Format of record	Inspection Activity Categorisation	Inspection by
Gland -Raw material	General finish, appearance	Semi critical	Visual	100%	BS 970(Pt 3)-91 Gde 080 M40 (Normalised)	BS 970(Pt 3)-91 Gde 080 M40 (Normalised)	Visual Inspn. Report	Non- critical	QC/HEPF
	Chemical properties	Critical	Chemical lab analysis	Three samples per lot or as per the discretion of inspection authority			Test report from NABL Lab / Govt lab		
	Mechanical properties	Critical	Mechanical lab analysis	Three samples per lot or as per the discretion of inspection authority			Test report from NABL Lab / Govt lab		
In process - Turning and coating	Dimensions specified in the inspection report of the component	Critical	Dimensional measurement	As per sampling plan IS 2500 Level II	Tolerance as specified in Drg.NASK 1071/6 (P)	Tolerance as specified in Drg.NASK 1071/6 (P)	Inspection report of Gland		
Final finish	Zinc & Chromate 0.01 mm thick	Critical	Visual / Test sample	100%	IS:1573	IS:1573	Test report from NABL Lab / Govt lab or Inspection report of Gland		

Inspection Report

Description of the item	**GLAND**
Drawing No.	NASK 1071/6 (P)
Date of Inspection	

Sno.	Description of parameter	Nominal dimension as per drawing in mm	Gauge used	Tolerance (As specified in the drg.)	Nature of Parameter	Observed dimension in mm	Error	Remarks
1	Outer diameter	57.5	Snap 'Go' & 'No Go' gauge sl.no. 148	±0.1	Major			
2	Inner diameter	50.5	Plug 'Go' & 'No Go' gauge sl.no. 107	+0.1	Major			
3	Thickness	5		-0.1	Major			
4	Inner chamfer	1 x 45°			Minor			
5	Chamfer angle (other end)	30°			Major			
6	Outer chamfer	0.5 x 45°			Minor			

Special Notes:

Ser.	Note	Observations
1	Material: Steel to spec BS 970(Pt 3)-91 Gde 080 M40(Normalised)	
2	General Tolerance spec IS 2102 (Medium class) unless specified.	
3	Finish: Zinc and chromate coating 0.01 mm thick to spec IS:1573.	
4	Fitment to be satisfactory with mating component.	
5	Manufacturer's logo and serial No. to be marked with permament marker in 03 to 06mm letter size on the top surface between Ø50.5+0.1 and Ø57.5±0.1.	

Table 13 — Chemical composition: carbon and carbon manganese steels

Steel	C	Si	Mn	P	S
	%(m/m)	%(m/m)	%(m/m)	%(m/m)	%(m/m)
080A15	0.13 to 0.18	0.10 to 0.40	0.70 to 0.90	0.05 max.	0.05 max.
080M15	0.12 to 0.18	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
070M20	0.16 to 0.24	0.10 to 0.40	0.50 to 0.90	0.05 max.	0.05 max.
080A30	0.26 to 0.34	0.10 to 0.40	0.70 to 0.90	0.05 max.	0.05 max.
080M30	0.26 to 0.34	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
080M40	0.36 to 0.44	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
080A42	0.40 to 0.45	0.10 to 0.40	0.70 to 0.90	0.05 max.	0.05 max.
080A47	0.45 to 0.50	0.10 to 0.40	0.70 to 0.90	0.05 max.	0.05 max.
080M50	0.45 to 0.55	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
070M55	0.50 to 0.60	0.10 to 0.40	0.50 to 0.90	0.05 max.	0.05 max.
150M19	0.15 to 0.23	0.10 to 0.40	1.30 to 1.70	0.05 max.	0.05 max.
150M36	0.32 to 0.40	0.10 to 0.40	1.30 to 1.70	0.05 max.	0.05 max.

NOTE See also **3.3** g) and option **A.1**, **A.2** and **A.4**.

Table 14 — Chemical composition: case hardening steels (carbon and carbon manganese steels)

Steel	C	Si	Mn	P	S
	%(m/m)	%(m/m)	%(m/m)	%(m/m)	%(m/m)
045A10	0.08 to 0.13	0.10 to 0.40	0.30 to 0.60	0.05 max.	0.05 max.
045M10	0.07 to 0.13	0.10 to 0.40	0.30 to 0.60	0.05 max.	0.05 max.
080M15	0.12 to 0.18	0.10 to 0.40	0.60 to 1.00	0.05 max.	0.05 max.
210M15	0.12 to 0.18	0.10 to 0.40	0.90 to 1.30	0.05 max.	0.10 to 0.18

Table 15 — Chemical composition: alloy case hardening Steels[a]

Steel	C	Si	Mn	Cr	Mo	Ni
	%(m/m)	%(m/m)	%(m/m)	%(m/m)	%(m/m)	%(m/m)
635M15	0.12 to 0.18	0.10 to 0.40	0.60 to 0.90	0.4 to 0.80	—	0.70 to 1.10
637M17	0.14 to 0.20	0.10 to 0.40	0.60 to 0.90	0.60 to 1.00	—	0.85 to 1.25
655M13	0.10 to 0.16	0.10 to 0.40	0.35 to 0.60	0.70 to 1.00	—	3.00 to 3.75
665M17	0.14 to 0.20	0.10 to 0.40	0.35 to 0.75	—	0.20 to 0.30	1.50 to 2.00
805M17	0.14 to 0.20	0.10 to 0.40	0.60 to 0.95	0.35 to 0.65	0.15 to 0.25	0.35 to 0.75
805M20	0.17 to 0.23	0.10 to 0.40	0.60 to 0.95	0.35 to 0.65	0.15 to 0.25	0.35 to 0.75
815M17	0.14 to 0.20	0.10 to 0.40	0.60 to 0.90	0.80 to 1.20	0.10 to 0.20	1.20 to 1.70
820M17	0.14 to 0.20	0.10 to 0.40	0.60 to 0.90	0.80 to 1.20	0.10 to 0.20	1.50 to 2.00
822M17	0.14 to 0.20	0.10 to 0.40	0.40 to 0.70	1.30 to 1.70	0.15 to 0.25	1.75 to 2.25
835M15	0.12 to 0.18	0.10 to 0.40	0.25 to 0.50	1.00 to 1.40	0.15 to 0.30	3.90 to 4.30

NOTE See also **3.3** c), **3.3** i) and options **A.2** and **A.5**.

[a] Sulfur 0.05 % max., phosphorous 0.04 % max. for all qualities.

Table 20 — Mechanical properties for carbon and carbon manganese steels (18)

Steel	Condition (2)	Size (1) (diameter across flats or thickness)	R_m	R_e min.	A min. on $5.65\sqrt{S_o}$	Impact[a]		$R_{p0.2}$ (3) min.	HB (13)
						Izod min.	KCV min.		
		mm	N/mm^2	N/mm^2	%	J	J	N/mm^2	
080M40	Normalized + turned or ground	≥ 6 ≤ 150	550 min.	280	16	20	16	—	152 to 207
		> 150 ≤ 250	510 min.	245	17	—	—	—	146 to 197
	Hot rolled + cold drawn or hot rolled + cold drawn + ground	≥ 6 ≤ 13	660 min.	530	7	—	—	495	
		> 13 ≤ 16	650 min.	510	8	—	—	485	
		> 16 ≤ 40	620 min.	480	9	—	—	435	
		> 40 ≤ 63	600 min.	465	10	—	—	370	
		> 63 ≤ 76	570 min.	430	10	—	—	350	
	Hardened and tempered + turned or ground	Q ≥ 6 ≤ 63	625 to 775	385	16	34	28	355	179 to 229
		R ≥ 6 ≤ 19	700 to 850	465	16	34	28	450	201 to 255
	Hardened and tempered + cold drawn or hardened and tempered + cold drawn + ground	Q ≥ 6 ≤ 63	625 to 775	435	12	34	—	380	179 to 229
		R ≥ 6 ≤ 19	700 to 850	490	12	34	—	460	201 to 255
080M50	Normalized + turned or ground	≥ 6 ≤ 150	620 min.	310	14	—	—	—	179 to 229
		> 150 ≤ 250	570 min.	295	14	—	—	—	163 to 217
	Normalized + cold drawn or normalized + cold drawn + ground	≥ 6 ≤ 13	740 min.	590	7	—	—	555	
		> 13 ≤ 16	730 min.	585	8	—	—	545	
		> 16 ≤ 40	690 min.	555	8	—	—	485	
		> 40 ≤ 63	680 min.	540	9	—	—	420	
		> 63 ≤ 76	650 min.	510	10	—	—	400	
	Hardened and tempered + turned or ground (4)	Q ≥ 6 ≤ 150	625 to 775	390	15	—	—	360	179 to 229
		R ≥ 6 ≤ 63	700 to 850	430	14	—	—	400	201 to 255
		S ≥ 6 ≤ 29	775 to 925	495	14	—	—	465	223 to 277
		T ≥ 6 ≤ 13	850 to 1 000	570	12	—	—	555	248 to 302
	Hardened and tempered + cold drawn or hardened and tempered + cold drawn + ground (4)	Q ≥ 13 ≤ 150	625 to 775	430	11	—	—	390	179 to 229
		R ≥ 6 ≤ 63	700 to 850	490	10	—	—	450	201 to 255
		S ≥ 6 ≤ 29	775 to 925	540	10	—	—	500	223 to 277
		T ≥ 6 ≤ 13	850 to 1 000	595	9	—	—	550	248 to 302
	Turned, ground or cold drawn and finally softened	—	—	—	—	—	—	—	187 max.

[a] See also option A.3.