

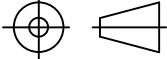
**FOR REFERENCE ONLY**  
**DATE - 03.02.18**

1. MATERIAL :- SAE 8620 H OR 4120 STEEL ( QL - 3 )  
Additional requirements : Ca:< 0.002%, S:0.01-0.04%, Cu:<=0.35%
2. HEAT TREATMENT : NORMALISED
3. HARDNESS - 160 - 200 BHN.
4. FORGING TO BE SHOT BLASTED.
5. JOMINY VALUE - J 4 / 16" = 30 ~ 34 HRC.  $\triangle 3$
6. GRAIN SIZE : ASTM 5 TO 8 AS PER ASTM E112.
7. STEEL SHOULD BE FROM VACCUM DEGASSED ROUTE.
8. NONMETALIC INCLUSION RATING ( WORST FEILD ) OF CARBON & ALLOY STEEL BAR PRODUCT S & FORGING SHALL CONFORM TO THE FOLLOWING SPECS

QUALITY LEVEL	TYPE A		TYPE B		TYPE C		TYPE D	
QL-3	THIN	HEAVY	THIN	HEAVY	THIN	HEAVY	THIN	HEAVY
	3	2	3	2	1	1	2	1.5

NOTE : NONMETALIC INCLUSION SHALL BE EVALUATED IN CONFORMANCE TO ASTM E 45 , METHOD A ,EXCEPT THAT FOR EACH INCUSION TYPE & THICKNESS , THE WORST FIELD RATING ON ANY TEST SPECIMENS ( NOT THE AVERAGE OF WORST FIELD RATING ON INDIVIDUAL TEST SPECIMENS ) SHALL BE USED TO DETERMINE THE FINAL RATING & REPORTED.

9. INTERNAL SOUNDNESS OF ALLOY STEEL BARS & FORGING  
S - 3 Max. , R - 3 Max. , C - 3 Max. ( GRAIN REFINER - Al OR Nb )  
REDUCTION RATIO GREATER THAN OR EQUAL TO 6:1
10. MICROSTRUCTURE:- UNIFORMLY DISTRIBUTED LAMELLER PEARLITE WITHOUT ANY INTERMEDIATE PRODUCTS OR PRONOUNCED BANDING.
11. UNSPECIFIED CORNER RADII : 2 , FILLET RADII : 3 , DRAFT ANGLES : 5°
12. FORGING TOLERANCES AS PER IS : 3469 ( PART II )1974.
13. ALL DIMENSIONS ARE AT CROSSING POINT.
14. SPARK TESTING : 100% REQUIRED ADDED.

										ALL DIMENSIONS ARE IN MILLIMETERS	
3	JOMINY VALUE $J_{16}^{4"} = 30 \sim 34$ HRC. WAS $J_{16}^{4"} = 34 \sim 38$ HRC. CHANGED; AS PER DCR NO. 1122					DIGPAL	R.P.	B.LEVA	2.2.18	DO NOT SCALE, IF IN DOUBT, PL. ASK	
2	100% SPARK TESTING REQUIREMENT ADDED (Ref. DCR No.93)					MRIDUL	R P	BLEVA	7.3.12	MACHINE ---	
1	JOMINY VALUE 34 ~ 38 HRC WAS 30 ~ 35 HRC CHANGED AFTER DEVELOPMENT REVIEW / TO IMPROVE LOW CD ISSUE (DCR / ECN NO. 60)					TRC	BLEVA	ALM	15.6.10	MATERIAL	
REV.NO.	REVISIONS					PRPD	CHKD	APRD	DATE	SEE NOTE	
DRAWING TITLE <div><b>FORGING DRAWING</b></div> <div>( HELICAL GEAR REVERSE DRIVE GEAR 23 T )</div>							NAME	SIGN	DATE	SCALE	HARD.
						PLND	MRIDUL		11.02.10	NT. WT.	PROJECTION
						CHKD	R. P.			1.74 Kg.	
COMP. <b>ED-2045</b>						APRD	B. LEVA				
VE COMMERCIAL VEHICLES LIMITED ( UNIT : EICHER ENGINEERING COMPONENTS ) 78 - 86, INDUSTRIAL AREA NO.- 3, A. B. ROAD, <b>DEWAS (M.P.)</b> 455 001								SHT. 01 OF 01	SL.NO. 4 - 2188		REV.  03
									DRAWING NO. <b>ED - 2045 / F</b>		
COAD DRG. :-								SIZE : A4, (210 x 297 mm)			