

MTO

Project No.	: 120800-803	Ref.	: 120800-803/MTO/FOR-01
Client	: Dangote Oil Refining Company	Rev.	: 0
Consultant	: EIL	Date	: 27-02-2017
Eqpt. No.	: 133-RB-1001 A/B		

For Dimensions, refer sketch "120800-803-FOR01"

Notes :

- 1 Material : SA-105
- 2 The material shall meet all the requirements of ASME Section II Part A Edition 2015.
- 3 The forgings shall be supplied in normalized condition.
- 4 The forgings shall be fully deoxidized (killed) & fine grained.
- 5 The material shall meet the chemical requirements as per ASME Section II Part A Edition 2015 with following additional requirements:
 Carbon Equivalent (CE) = $C + (Mn/6) + (Cr+Mo+V)/5 + (Ni+Cu)/15 \leq 0.45$,
 Vanadium (V) = 0.02 wt % max, Niobium (Nb) = 0.02 max and V+Nb = 0.03 wt % max
 Boron shall not be added intentionally.
- 6 Simulation heat treatment of test coupons of the forging shall be carried out according to the cycle given below :

Rate of Heating:	56°C/hr (maximum) above 300°C
Temperature:	610 ± 10 deg. C
Holding Time:	
1. Min PWHT:	135 minutes
2. Max PWHT:	405 minutes
Rate of Cooling:	56°C/hr (maximum) upto 300°C
- 7 All the mechanical tests shall be carried out and reported for the following.
 - 1) As Supplied
 - 2) As Supplied + Minimum PWHT Condition
 - 3) As Supplied + Maximum PWHT Condition
- 8 All forgings shall be impact tested at 0 °C in accordance with ASME Sec VIII Div 1 [Edition 2015].
 Acceptance criteria for energy absorption shall be 24 J minimum average for three specimens and the minimum impact energy for one specimen shall not be less than 16 J.
 Test specimens shall be prepared in accordance with ASME Sec II A SA-350/SA-350M.
- 9 All forgings shall be ultrasonically examined with 100% scanning in accordance with clause 3.3.4 of ASME Sec VIII Div 2 [Edition 2015].
- 10 Maximum hardness of the forgings shall not exceed 180 BHN
- 11 Entire surfaces of forgings including welding edges shall be magnetic particle examined in accordance with para 7.5.6 of ASME Sec VIII Div 2 [Edition 2015] after finish machining.
- 12 Repair by welding is not permitted.
- 13 Forging shall be supplied in fully machined condition. Vendor shall submit forging sketches for Godrej approval.
 Manufacturing activities should start only after approval of sketches by Godrej.
- 14 Forgings shall be legibly stamped or stenciled showing grade no. and item no. with "low stress stamp". Certification and Marking shall be in accordance with SA-105 of ASME Section II Part A Edition 2015
- 15 Inspection; Material shall be certified in accordance with EN 10204 - 3.2. [BV, Lloyds (LR5), TUV Nord]

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MK
Made By: MK

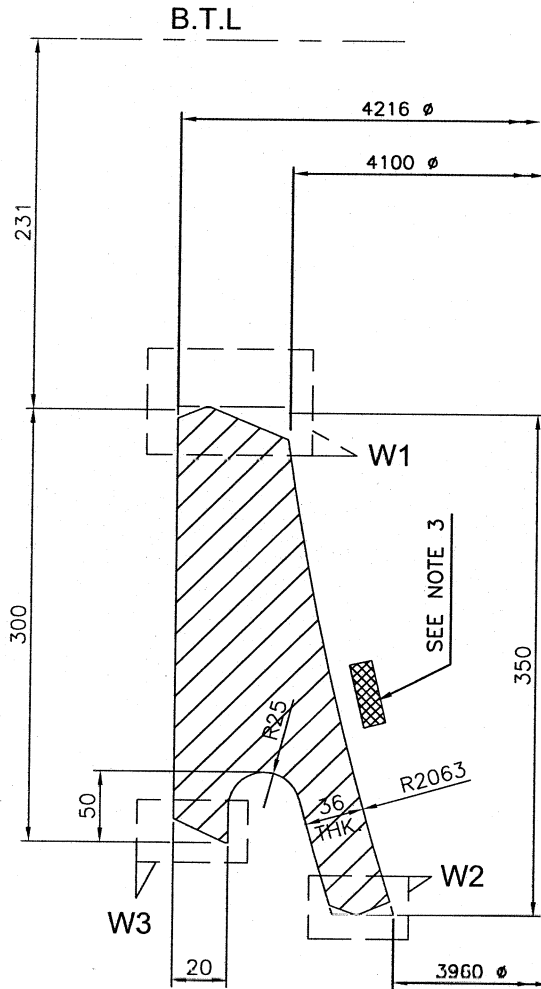
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PPK
Approved By: PPK

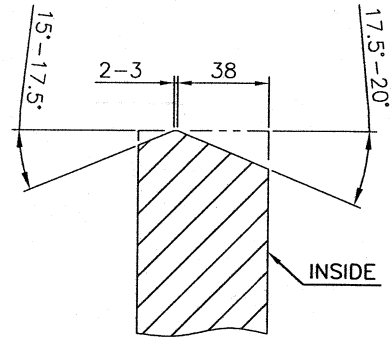
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NOTES:

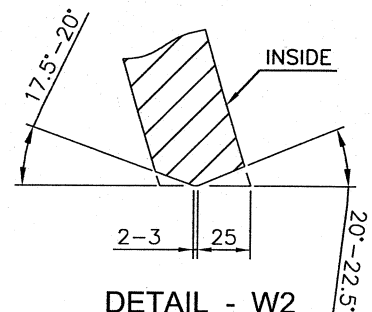
- 1) ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
- 2) FOR GENERAL NOTES, REFER 120800-803/MTO/FOR-01.
- 3) TENSION TEST SPECIMEN IN ADDITION TO THOSE REQUIRED BY MATERIAL SPECIFICATION SHALL BE TAKEN IN THE DIRECTION PARALLEL TO THE AXIS OF THE HUB AS PER CLAUSE NO 3.10 OF ASME SEC VIII, DIV 2, [2015 EDITION] AND THE TEST RESULTS SHALL BE REPORTED.



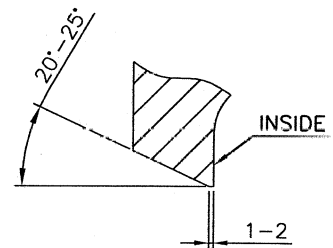
DETAIL OF Y-RING



DETAIL - W1



DETAIL - W2



DETAIL - W3

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ITEM CODE: YRING1

SCALE NTS	TITLE: EQPT. NO:	DETAILS OF Y-RING 133-RB-1001 A/B	MATERIAL SA-105	QUANTITY 2 NO.				
CLIENT: EIL /DANGOTE			PROJECT NO.: 120800/801					
 Godrej & Boyce Mfg. Co. Ltd. Process Equipment Division			DRAWN	DATE	CHECKED	DATE	APPROVED	DATE
			PPK	27/02/17	PPK	27/02/17	MP	27/02/17
			DRG. NO.: 120800-803-FOR01			SHT. 1 OF 1		REV.0