



FORGED BLOCK

DP/SPEC/358

REV.0

1. ENQUIRY ITEM

ITEM : FORGED BLOCK
MATERIAL : AISI8630 / AISI4130
DRAWING NO. : 3SK0560
QUANTITY : _____
ESTIMATED WEIGHT : _____
SPECIFICATION NO. : _____

2. CHEMICAL COMPOSITION (wt%)

	<u>specification</u>	<u>Proposal</u>
carbon	_____	_____
silicon	_____	_____
Manganese	_____	_____
Phosphorous	_____	_____
Sulphur	_____	_____
Nickel	_____	_____
Chromium	_____	_____
Molybedenum	_____	_____
Vanadium	_____	_____
Copper	_____	_____

3. MECHANICAL PROPERTIES

Tensile strength(N/mm^2) 655 Min
Yield Strength(N/mm^2) 517 Min
Elongation in (%) 18 Min
Reduction of Area in % 35 Min
Impact value in J at
23°C 50 Min

		PREP BY <i>ml</i>	APPD BY <i>sl</i>	SHEET NO	1
		DATE	DATE	SHEETS	4
MARK	REVISION	27-12-15	27-12-15		



FORGED BLOCK

DP/SPEC/358

REV.0

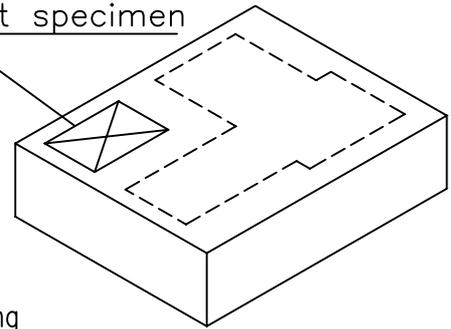
4. LOCATION OF TEST PIECE

Test specimens shall be taken from a 4"x4"x12" test coupon of same forging. The test shall be performed per heat, furnace load and size.

Tensile test shall be carried out in accordance with the requirements of ASTM A370.

Test specimens should be taken from same forging as shown.

Test specimen



5. MELTING & INGOT MAKING

Steel shall be melt by electric arc furnace and vacuum degassed before pouring.

6. FORGING PROCESS

The ingot shall be hot forged by forging press or hammer.

Forging ratio 3:1

Ingot redeving → Rough forging → Finish forging.

7. HEAT TREATMENT

Suitably to achieve Mech. Properties as mentioned at sheet 1 of 4.

8. CHEMICAL AND MECHANICAL TEST

9. MACHINING

Rough machining before NDT

10. ULTRASONIC EXAMINATION

11. MAGNETIC PARTICLE EXAMINATION

12. FINAL MACHINING

Forged Block shall be machined as per BPCL drg. no. 3SK0560 maintaining all dimensions and tolerances as specified.

			PREP BY <i>mm</i>	APPD BY <i>mm</i>	SHEET NO	2
			DATE	DATE	SHEETS	4
MARK	REVISION	BY	27-12-15	27-12-15		



FORGED BLOCK

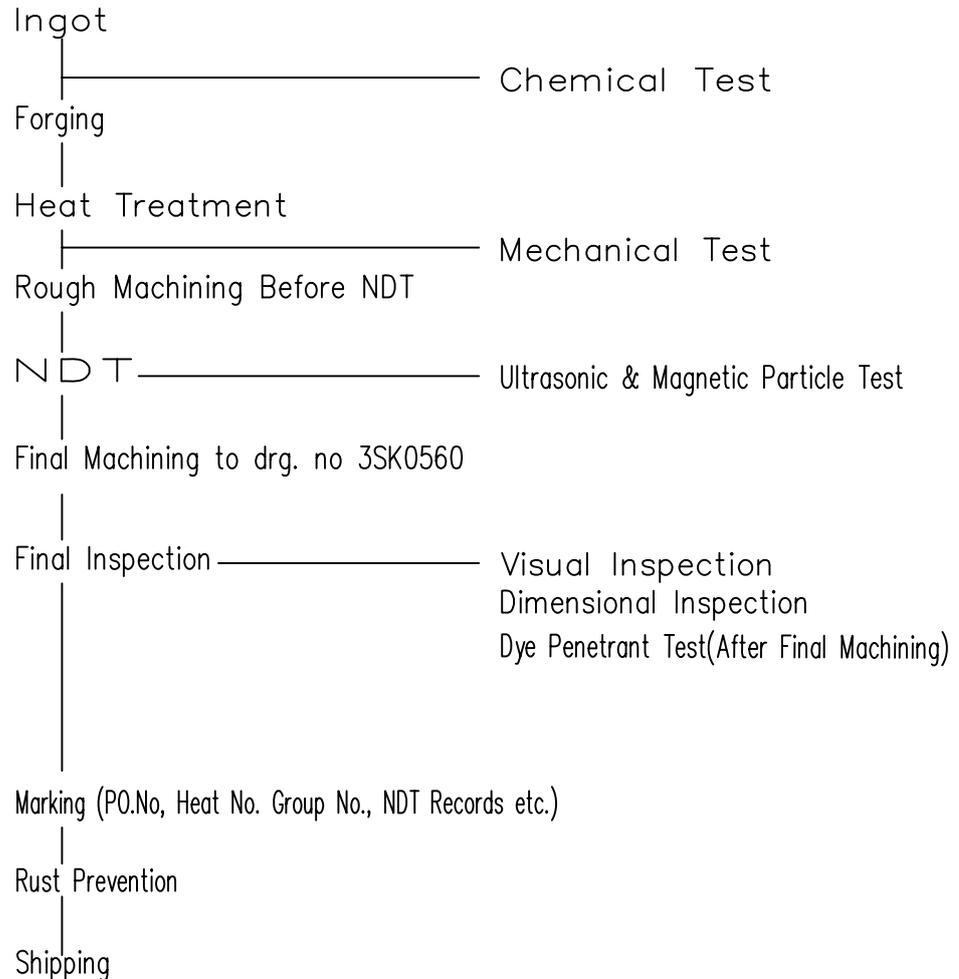
DP/SPEC/358

REV.0

13. FINAL INSPECTION

Visual, Dimensional And Dye Penetration.

14. PRODUCTION SEQUANCE



15. NON DESTRUCTIVE TEST

TEST ITEM

SPEC. NO.

Ultrasonic Test	<u>6080003/S REV. 4</u>
Magnetic Particle Test	<u>DP/SPEC 4DSD0341 REV.0</u>
Dye Penetrant Test	<u>DP/SPEC 4DSD0340 REV. 0</u>
Sulphur Print Test	<u>—</u>
Radiographic Test	<u>—</u>

		PREP BY <i>mm</i>	APPD BY <i>mm</i>	SHEET NO	3
MARK	REVISION	DATE	DATE	SHEETS	4
		27-12-15	27-12-15		



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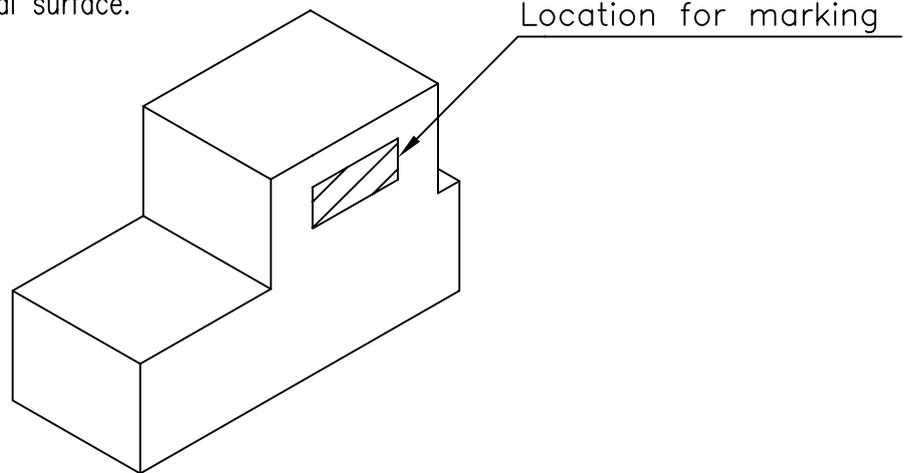
DP/SPEC/358

REV.0

16. RUST PREVENTION AND MARKING

- (I) Outer surface shall be coated by light oil.
Inner surface shall not be coated by any rust prevention.
- (II) Marking items
- The following items shall be clearly marked on each P/M Forged Block by stamping.
- (a) Manufacturer's symbol mark
 - (b) Heat no. & group no.
 - (c) P.O. No.
 - (d) All NDT Test (UT, MP & DP) records.
 - (e) Stamp of BPC representative

Marking shall be made on the following location of external surface.



17. RECORDS

Following inspection records (3 copies) shall be submitted alongwith supply-

- (1) Chemical composition
- (2) Mechanical test
- (3) Heat treatment Chart
- (4) Ultrasonic Test results.
- (5) Dye Penetrant & Magnetic Particle Test results.
- (6) Final Dimensional inspection results.

		PREP BY <i>ms</i>	APPD BY <i>js</i>	SHEET NO	4
		DATE	DATE	SHEETS	4
MARK	REVISION	27-12-15	27-12-15		