

SHOP  
ORDER NO

283370

PAGE 1



VMS283370

02/21/18 09:25

283370

CUSTOMER NAME		CUST. CODE	PROC CODE	PART NUMBER	SUB
DENSO MANUFACTURING TN INC		DENSO	NI	AN067817-7870	
SPARK PLUG DIVISION		PART NAME AND INFORMATION			CUSTOMER P.O. NO.
BNA		HOUSING - MASKED S/W 6,000 PCS/ PLATING LOAD GM (GEN V)			AN-202508-00009 DO# 80305013
S.O. DATE	NO. OF LBS.	NO. OF PIECES	NO. CONTAINERS & TYPE		SHIPPING NO.
02/21/18	941.00	18,000	45 TOTES + 3 empties		252140 \$/E

PROCESS PARAMETERS:

NICKEL (.00008" - .0004")

SHIP TO: (865) 379-5633 FINAL INSPECTION BY  
DENSO MANUFACTURING TN INC  
SPARK PLUG DIVISION  
2400 DENSO DRIVE  
ATHENS, TN 37303

PRODUCTION REPORT

DATE	SHIFT	OPERATION (LETTER)	DEPT.	QUANTITY	BY	NO.	THICKNESS
2-21	1	A	16	Labels	CE		
2-22	1	BCD	4	941	IH	1	.213
2-22	1	E	16	Wt	Don		

PART AND MATERIAL DESCRIPTION	19.102 PCS/LB      52.35 LBS/M .83 SQ FT/LB      43.37 SQ FT/M 102.00 LB/CU FT      .05235 PC WT 23.745541 GRAMS/PC 40.292977 SQ CM/PC
SAE 1010 STEEL X 42.3MM L BODY X 15.95MM HEX X M14 THREADS X 13MM L MASKED S/W	

REV DATES: STD PROC 11/30/16 MMJ:MMJ 13:13  
LOADINGS 06/19/17 JP :JP 16:17  
PART SPEC 02/05/18 JP :JP 12:17  
LAST ORDER 02/20/18 283315 ( 6)  
PREV ORDER 02/19/18 283280 ( 2)  
QUOTE INFO 04/01/16 65264



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- A. DEPT 16 PRINT LABELS CODE: DENSO15 04/11/16  
LABELING: USE LABEL FORMAT "DENSO"  
1. LABELS NEEDED (15 TOTES/LOAD) = 15 X 3 (NO. LOADS) = 45  
PACKING:  
1. (S.O. WEIGHT / TOTES ON ORDER) X 1.005 = 21.01 LBS PER TOTE PLATED
- B. DEPT 04 CLEAN 2 MIN. HOT ACID CODE: DENSO 11/30/16  
3 LOADS @ 313.7 LBS 10.0 VOLT LIMIT  
10/05/11  
(MAX: 325.0 )

\*\*\*\*\*  
CUSTOMER FREQUENTLY SENDS TOTES WITH WRONG PART IN IT. FOLLOW BELOW  
PROCEDURE AND LOOK CLOSELY FOR MIXED PARTS.  
\*\*\*\*\*

- MATERIAL HANDLING:
1. DUMP ORDER INTO TUBAR DUMPER - DUMPER MUST BE LINED WITH BELTING.
  2. TURN SKID SO SHORT SIDE IS FACING FRONT OF TUBAR (3 PANS WIDE SIDE)
  3. INSPECT THE 6 PANS CLOSEST TO TUBAR TO VERIFY THEY ARE THE CORRECT PART.  
NOTE: MUST DELIBERATELY LOOK AT EACH PAN FOR MIN. OF 1 SEC.
  4. AFTER INSPECTING ALL 6 PANS, PULL BAGS UP AND GENTLY DUMP INTO TUBAR.
  5. THROW AWAY THESE 6 BAGS, PULL LOT CARD FROM BOTTOM OF PAN - PUT ALL LOT CARDS IN LABELED BAGGIE.
  6. STACK THE EMPTY PANS TO THE SIDE.
  7. REPEAT STEPS 3-6 UNTIL THAT SIDE OF SKID IS EMPTY.
  8. THEN ROTATE SKID 180 DEG. AND REPEAT STEPS 3-6 UNTIL SKID IS EMPTY.

- CLEANER LINE SET UP:
1. CLEANER VOLTAGE: 10 VOLTS
  2. UP BARREL ROTATION: OFF
  3. BBL SPEED: SETUP "1"
  4. ACID: 2 MIN. HOT
- NOTE: ACID CHECK A PART THAT USES THIS CODE ONCE PER SHIFT. SHOW FOREMAN THE ACID CHECK.

- C. DEPT 04 NICKEL STRIKE 11/30/16  
3 LOADS @ 313.7 LBS 482 AMPS 16 MIN. @ 3 RPM 10.0 VOLT LIMIT  
06/19/17  
(MAX: 325.0 500 16 1.9 .13 )

- D. DEPT 04 NICKEL PLATE \*\*\*\*\* HIGH RELIABILITY \*\*\*\*\* CODE: DENSO 04/11/16  
3 LOADS @ 313.7 LBS 185 AMPS 200 MIN. @ 2 RPM 7.0 VOLT LIMIT  
01/20/17  
(MAX: 325.0 192 200 .7 1.20 )

\*\*\*\*\*  
DO NOT CHANGE VOLT LIMIT - DO NOT CHANGE VOLT LIMIT  
\*\*\*\*\*

- NICKEL LINE SET UP:
1. LANE SETUP: #1

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2. UP BBL ROTATION: "OFF"

POST DIP & DRYING PROCEDURE:

1. \*\*\*\*\* RECLEAN AFTER NICKEL \*\*\*\*\*
2. BELTING REQUIRED WHEN UNLOADING INTO HARSHAW DRYER BASKETS
3. DIP DRYER BASKETS IN FINISH AID CROCK AFTER UNLOADING

INSPECTION:

APPEAR: 1. PARTS SHOULD HAVE VERY GOOD BRIGHTNESS

THICK: 1. CHECK 5 PCS ON 1ST LOAD ONLY IN CENTER OF HEX

2. DIR: DENSO PRODUCT = P/N

3. TARGET MEAN = .190 - .240, ALL CHECKS BETWEEN .100 - .330

ADHES: 1. CRIMP/BEND 5 PCS/LOAD AND INSPECT USING MAGNIFYING GLASS. NOTIFY FOREMAN OF ANY PCS WITH POOR ADHESION. DO NOT BEND MASKED TABS.

2. IDENTIFY & SAVE ALL SAMPLES ON WIRE RING FOR EVALUATION BY Q.C.

MATERIAL HANDLING:

1. WEIGH INTO TOTES PER OPER."A" PLACING 1 VMS LABEL ON TOP OF EACH TOTE

NOTE: LAST TOTE COULD BE HEAVY OR LIGHT. MAKE SURE TOTE ON TOP LAYER.

OKAY TO BORROW PIECES FROM OTHER TOTES ON LOAD TO GET WEIGHT CLOSE

2. EACH TOTE MUST ALSO HAVE A "KANBAN" CARD IN TOTE CLIP

3. PLACE LABELED BAGGIE OF LOT TAGS IN ONE PAN ON TOP LAYER.

E. DEPT 16 FINAL INSPECT DENSO SHELLS

CODE: NIDENS 09/05/14

APPEAR: 1. PARTS MUST HAVE VERY GOOD BRIGHTNESS

ADHES: 1. INSPECT CRIMPS/BENDS (IF APPLICABLE). RECORD SCORES > 0 IN EXCEL

2. ALL SCORES MUST BE < 10. SEE Q.C MANAGER IF SCORES > 10

THICK: 1. MEAN MUST BE .150 - .300 & ALL CHECKS .080 - .400, RECHECK THICK.

IF PARAMETERS ARE NOT MET

**Fischerscope® XRAY XDVM-W**

**Varland Metal Service**

3231 Fredonia Avenue  
Cincinnati, Ohio 45229-3394

AN067817-7870

Operator: 136

Shop Order No. 238370

Load No. 1

N	0.080		0.400 Ni[mils]
1		♦	0.191
2		♦	0.237
3		♦	0.236
4		♦	0.194
5		♦	0.208

<b>Mean</b>	0.213 mils
<b>Standard deviation</b>	0.022 mils
<b>Range</b>	0.045 mils
<b>Number of readings</b>	5
<b>Min. reading</b>	0.191 mils
<b>Max. reading</b>	0.237 mils
<b>Measuring time</b>	10 sec

Date: 2/22/2018 Time: 8:46:10 AM

Block Number: 1029

DENSO:AN067817-7870

X-ray # 2