
# New Product Development Module

**GAP OSM's NPD ( New Product Development) module ensures a smooth Design & Development Activity which is based on APQP and simultaneously prepares all the required PPAP documentation.**

It creates and saves all the documents required for Verification, Validation, Process and Product Monitoring. It also results in a smooth transition from Development to Production.

It keeps a tab on the Product Cost and the Time frame.

**The various Activities covered under NPD module are shown below:-**

- Project Initiation
- Projects Listing
- Working on Individual Product
- Function Identification & Study / Quality Function Deployment (QFD)
- Quality Function Deployment (QFD)
- Design Validation Plan (DVP)
- Performance Testing Sheet
- Product Costing Sheet
- Part List with details
- Development Status Review
- Defining the Process Stations with Required Inputs
- Process Flow Chart
- Process FMEA Work Sheet & Print Out
- Special Characteristics Matrix
- Inspection Sheet for Layout
- PDI Sheet ( Pre Despatch Inspection )
- Checking Aids List
- Skills Required and Available Plan
- Skills Development Plan
- Child Part Detailing
- Child Part Raw material details
- Child Part Processing Details
- Child Part Finishing details
- Child Part Control Plans
- Part Submission Warrant
- PPAP Documents

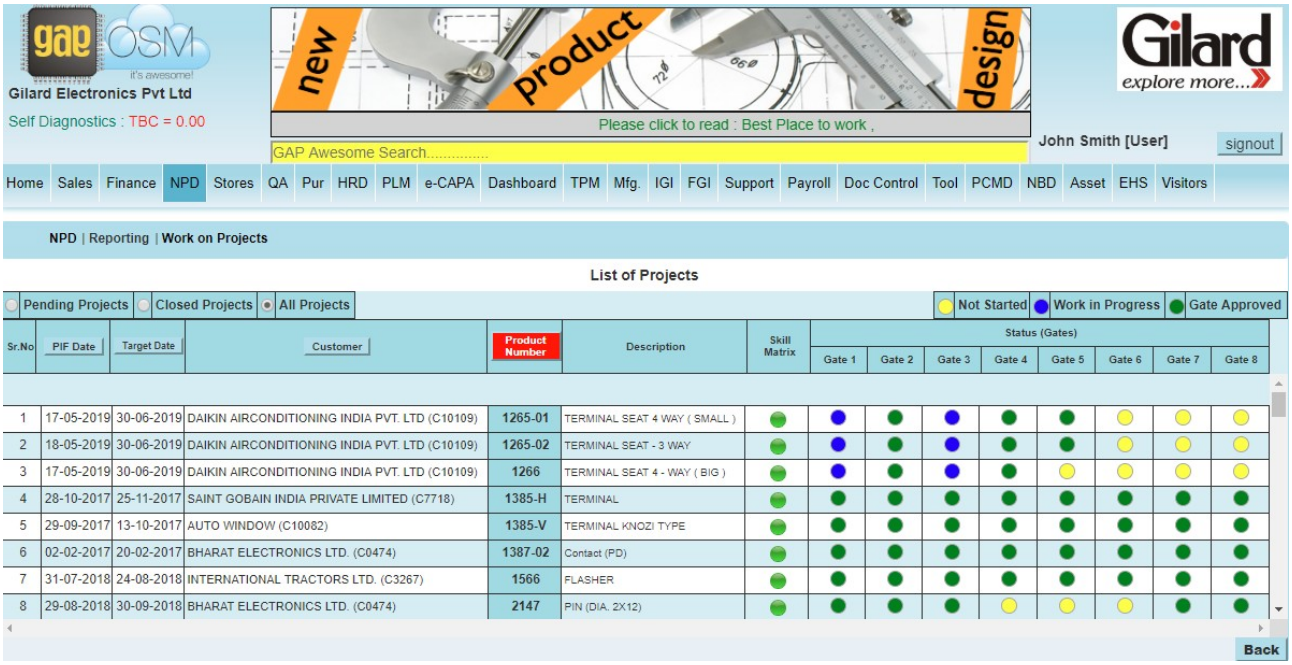
## Project Initiation

**Edit Project Information**

| | | | |
|---|---|---|---|
| Product No. | 2352 | Customer Part No. : | 26751542 |
| Date: | 06-05-2019 | Customer: | INDRAD AUTO COMPONENTS-KANCHEEPUF ▾ |
| Product Description: | RADIATOR RESISTOR 0.43 OHMS | | |
| Product Purpose: | RADIATOR RESISTOR | | |
| Annual Qty: | 120000 | Project Life Expected: | 5 |
| Sale Price: | 90 | Target Cost: | 50 |
| Target date of Completion: | 06-10-2019 | | |
| Project Designated to: | E2459(Sijo Joseph)E2406(Ankush Dhiman)E2337(Vikrant Verma) + - | | |
| Annual Revenue: | 1,08,00,000 | Lifetime Revenue: | 5,40,00,000 |

Update and Exit | Cancel

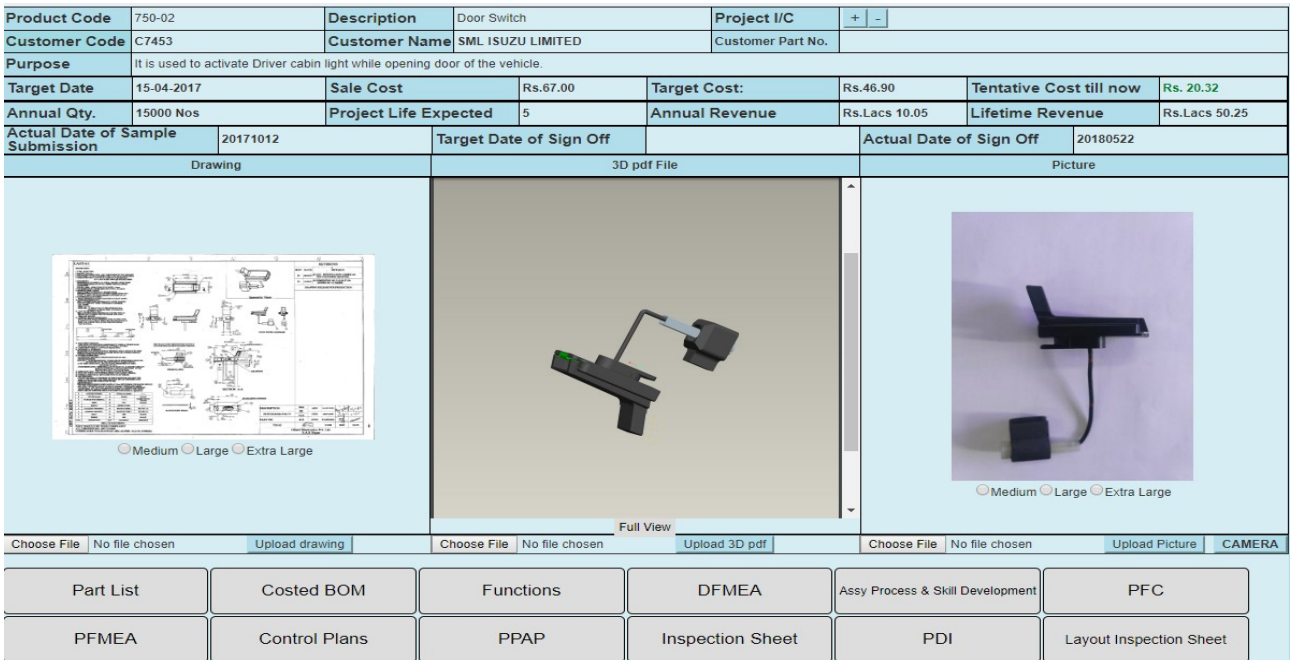
## Projects Listing




| Sr.No | PIF Date | Target Date | Customer | Product Number | Description | Skill Matrix | Status (Gates) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Gate 1 | Gate 2 | Gate 3 | Gate 4 | Gate 5 | Gate 6 | Gate 7 | Gate 8 |
| 1 | 17-05-2019 | 30-06-2019 | DAIKIN AIRCONDITIONING INDIA PVT. LTD (C10109) | 1265-01 | TERMINAL SEAT 4 WAY ( SMALL ) | | | | | | | | | |
| 2 | 18-05-2019 | 30-06-2019 | DAIKIN AIRCONDITIONING INDIA PVT. LTD (C10109) | 1265-02 | TERMINAL SEAT - 3 WAY | | | | | | | | | |
| 3 | 17-05-2019 | 30-06-2019 | DAIKIN AIRCONDITIONING INDIA PVT. LTD (C10109) | 1266 | TERMINAL SEAT 4 - WAY ( BIG ) | | | | | | | | | |
| 4 | 28-10-2017 | 25-11-2017 | SAINT GOBAIN INDIA PRIVATE LIMITED (C7718) | 1385-H | TERMINAL | | | | | | | | | |
| 5 | 29-09-2017 | 13-10-2017 | AUTO WINDOW (C10082) | 1385-V | TERMINAL KNOZI TYPE | | | | | | | | | |
| 6 | 02-02-2017 | 20-02-2017 | BHARAT ELECTRONICS LTD. (C0474) | 1387-02 | Contact (PD) | | | | | | | | | |
| 7 | 31-07-2018 | 24-08-2018 | INTERNATIONAL TRACTORS LTD. (C3267) | 1566 | FLASHER | | | | | | | | | |
| 8 | 29-08-2018 | 30-09-2018 | BHARAT ELECTRONICS LTD. (C0474) | 2147 | PIN (DIA. 2X12) | | | | | | | | | |

Back

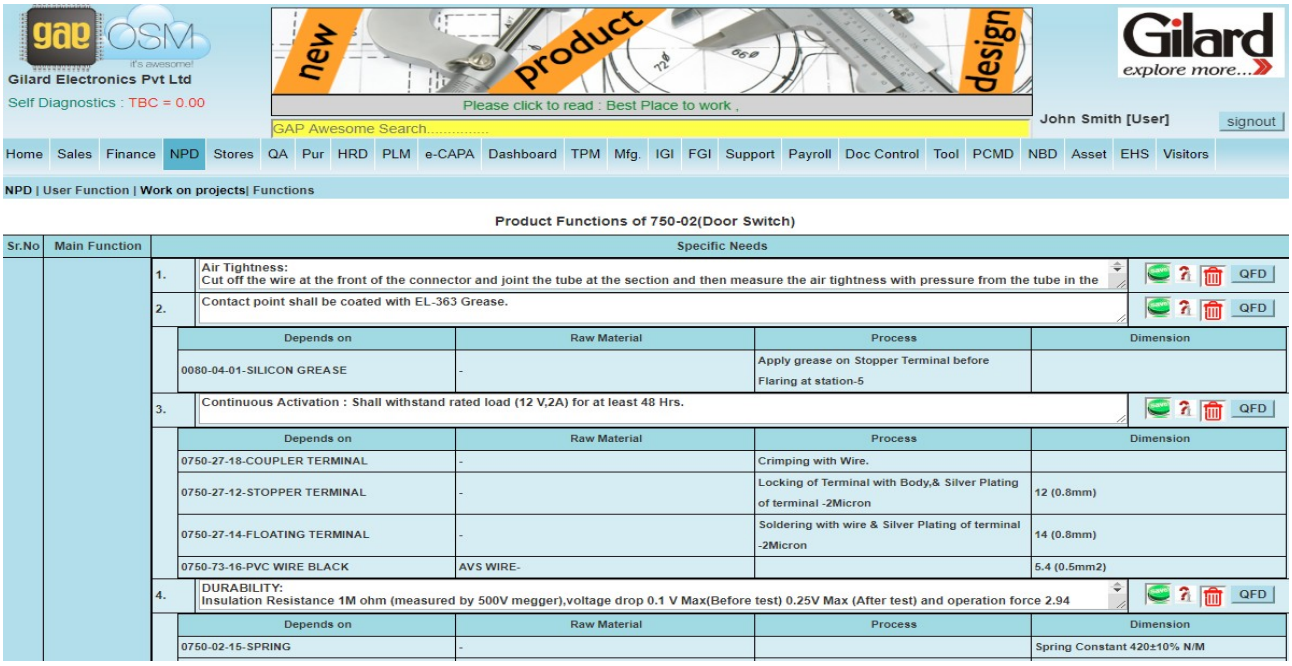
## Working on Individual Product



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Product Code | 750-02 | Description | Door Switch | Project I/C | + - | | |
| Customer Code | C7453 | Customer Name | SML ISUZU LIMITED | Customer Part No. | | | |
| Purpose | It is used to activate Driver cabin light while opening door of the vehicle. | | | | | | |
| Target Date | 15-04-2017 | Sale Cost | Rs.67.00 | Target Cost: | Rs.46.90 | Tentative Cost till now | Rs. 20.32 |
| Annual Qty. | 15000 Nos | Project Life Expected | 5 | Annual Revenue | Rs.Lacs 10.05 | Lifetime Revenue | Rs.Lacs 50.25 |
| Actual Date of Sample Submission | 20171012 | Target Date of Sign Off | | Actual Date of Sign Off | 20180522 | | |



## Function Identification & Study / Quality Function Deployment (QFD)





**Product Functions of 750-02(Door Switch)**

| Sr.No | Main Function | Specific Needs | | | |
|---|---|---|---|---|---|
| | | 1. Air Tightness: Cut off the wire at the front of the connector and joint the tube at the section and then measure the air tightness with pressure from the tube in the | | | QFD |
| | | 2. Contact point shall be coated with EL-363 Grease. | | | QFD |
| | | Depends on | Raw Material | Process | Dimension |
| | | 0080-04-01-SILICON GREASE | - | Apply grease on Stopper Terminal before Flaring at station-5 | |
| | | 3. Continuous Activation : Shall withstand rated load (12 V,2A) for at least 48 Hrs. | | | QFD |
| | | Depends on | Raw Material | Process | Dimension |
| | | 0750-27-18-COUPLER TERMINAL | - | Crimping with Wire. | |
| | | 0750-27-12-STOPPER TERMINAL | - | Locking of Terminal with Body,& Silver Plating of terminal -2Micron | 12 (0.8mm) |
| | | 0750-27-14-FLOATING TERMINAL | - | Soldering with wire & Silver Plating of terminal -2Micron | 14 (0.8mm) |
| | | 0750-73-16-PVC WIRE BLACK | AVS WIRE- | | 5.4 (0.5mm2) |
| | | 4. DURABILITY: Insulation Resistance 1M ohm (measured by 500V megger),voltage drop 0.1 V Max(Before test) 0.25V Max (After test) and operation force 2.94 | | | QFD |
| | | Depends on | Raw Material | Process | Dimension |
| | | 0750-02-15-SPRING | - | | Spring Constant 420±10% N/M |

# Quality Function Deployment (QFD)

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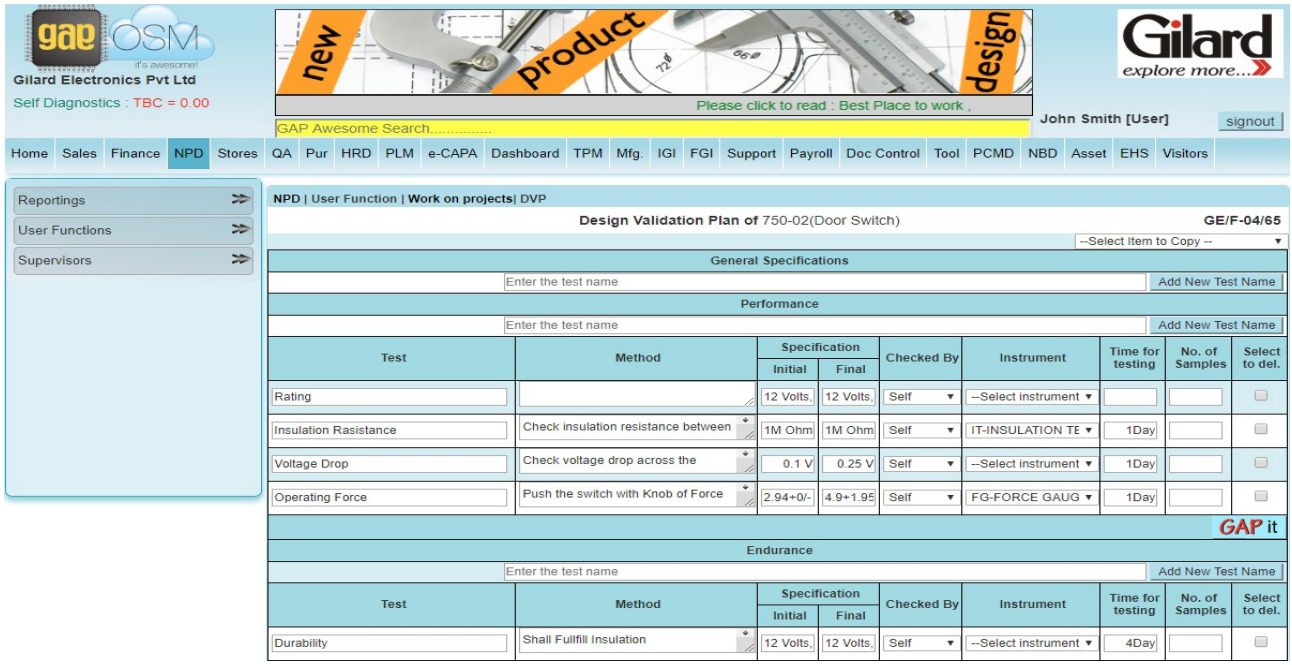
**Quality Function Deployment**
of 750-02-Door Switch

| | |
|---|---|
| Date : | 28th of August 2019 |
| Time : | 12:49:57 PM |
| User : | Gagandeep Kaur |

| Function | Part List | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0750-73-16-PVC WIRE BLACK ( AVS Wire ) | 0080-04-01-SILICON GREASE ( Silicon ) | 0016-02-01-Solder Wire (1.0mmdia) lead free ( MTC OF RoHS ) | 0016-01-01-HYBRID/96S3 SOLDER CONDITIONER ( MTC OF RoHS ) | 0750-27-12-STOPPER TERMINAL ( Vicker Hardness 110 VPN Min. ) | 0750-02-15-SPRING ( Stainless Steel Wire ) | 0028-04-22-ARALDITE (HARDENER & RESIN) ( MTC OF RoHS ) | 0750-27-14-FLOATING TERMINAL ( Vicker Hardness 110 VPN Min. ) | 0750-27-18-COUPLER TERMINAL ( MTC OF RoHS ) | 0750-43-10-BODY ( ABS BLACK ) | 0750-43-11 SLIDER ( ABS BLACK ) | 0750-52-17-COUPLER ( Nylon 6/6 ) | 0750-60-19-GLUED FOAM ( MTC OF RoHS ) | 0750-68-13-STOPPER RUBBER ( MTC OF RoHS ) | - |
| Volt Drop : 0.1 V Max (Before test), 0.25 V Max (After test) | D | | | | | | | | | | | | | | |
| Product should comply to ROHS requirement. | R | R | R | R | R | R | R | R | R | R | R | R | R | R | |
| Insulation resistance : 1 M ohm (Measured by 500V Megger) | D | | | | | | | | | | | | | | |
| Operation Force : 2.94 +0/-1.4 N (300+0/-150 gf) Initial 4.9 +1.95/-0 N (500+200/-0 gf) Stroke 8 mm | | | | | | D | | | | | | | | | |
| DURABILITY: Insulation Resistance 1M ohm (measured by 500V megger),voltage drop 0.1 V Max(Before test) 0.25V Max (After test) and operation force 2.94 +0/-1.4 N (300+0/-150 gf) Initial and 4.9 +1.95/-0 N (500+200/-0 gf) Stroke 8 mm shall be met after 40,000 cycle operation at 12V, 2A under the following conditions: Stroke: 8 mm, Operation cycle Rate:15/Min. | D | | | | RP | D | | RP | | | | | | | |
| Vibration Resistance :As per JIS D 1601 (Type 1, Class B ) | | | | | | | | | | | | | | | |
| Working Temp. range : Shall operate normally,be free from | | | | | | | | | | | | | | | |

# Design Validation Plan (DVP)



## Performance Testing Sheet

| | DVP-Performance Testing of 750-02 (Door Switch) | Date : | 28-08-2019 |
|---|---|---|---|
| | | Time : | 12:57:17pm |
| | | Doc No : | GE/F-04/12 |

| Part Name: | 750-02-Door Switch | Customer: | C7453-SML ISUZU LIMITED |
|---|---|---|---|

Performance Test(Initial)

| S.no. | Test | Method | Equipment | Specification | | |
|---|---|---|---|---|---|---|
| | | | | Specified | Observed | Result |
| 1 | Rating | | | 12 Volts,2Amperes | | |
| 2 | Insulation Rasistance | Check insulation resistance between Terminal and Body. | IT- | 1M Ohms | | |
| 3 | Voltage Drop | Check voltage drop across the terminals of switch at On position | | 0.1 V | | |
| 4 | Operating Force | Push the switch with Knob of Force Gauge | FG- | 2.94+0/-1.47N(300+0/-150GF) | | |

Climatic/Endurance Test

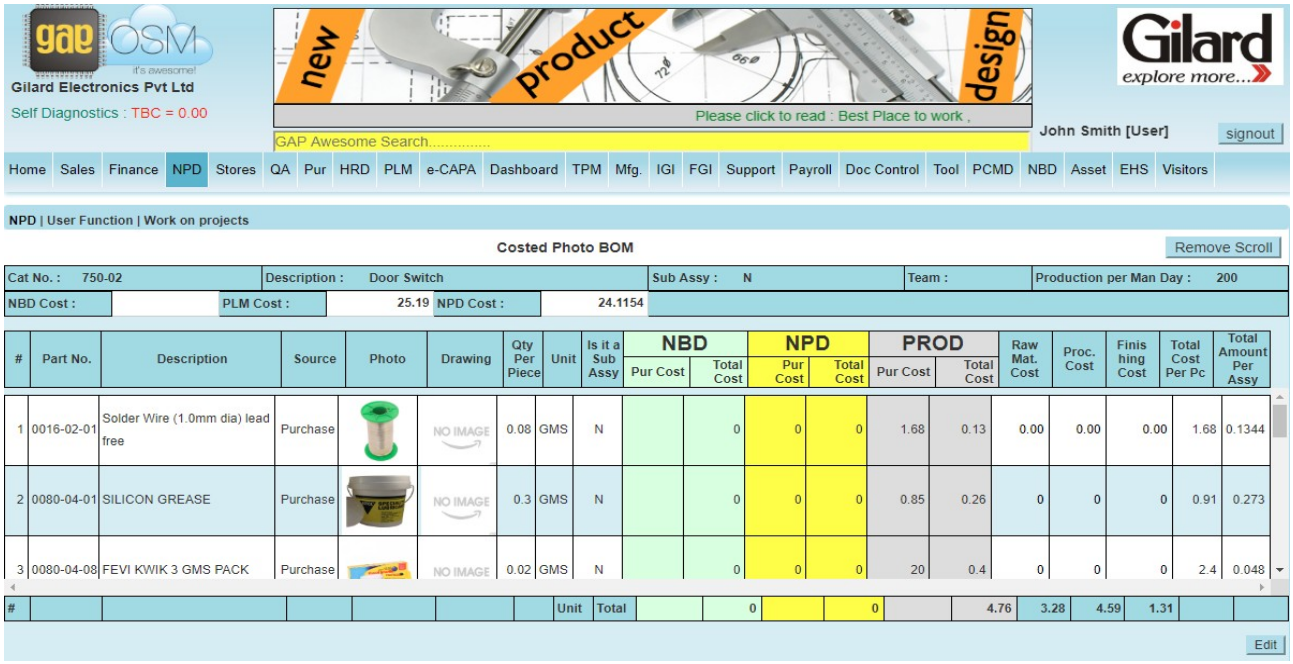
1.Durability

| Test : | Durability |
|---|---|
| Method : | Shall Fullfill Insulation resistance,Voltage Drop and operation force after 40000 cycles at12V,2A under the following condition-Stroke 8 mm,Operation Cycle Rate-15 SPM |
| Equipments : | |

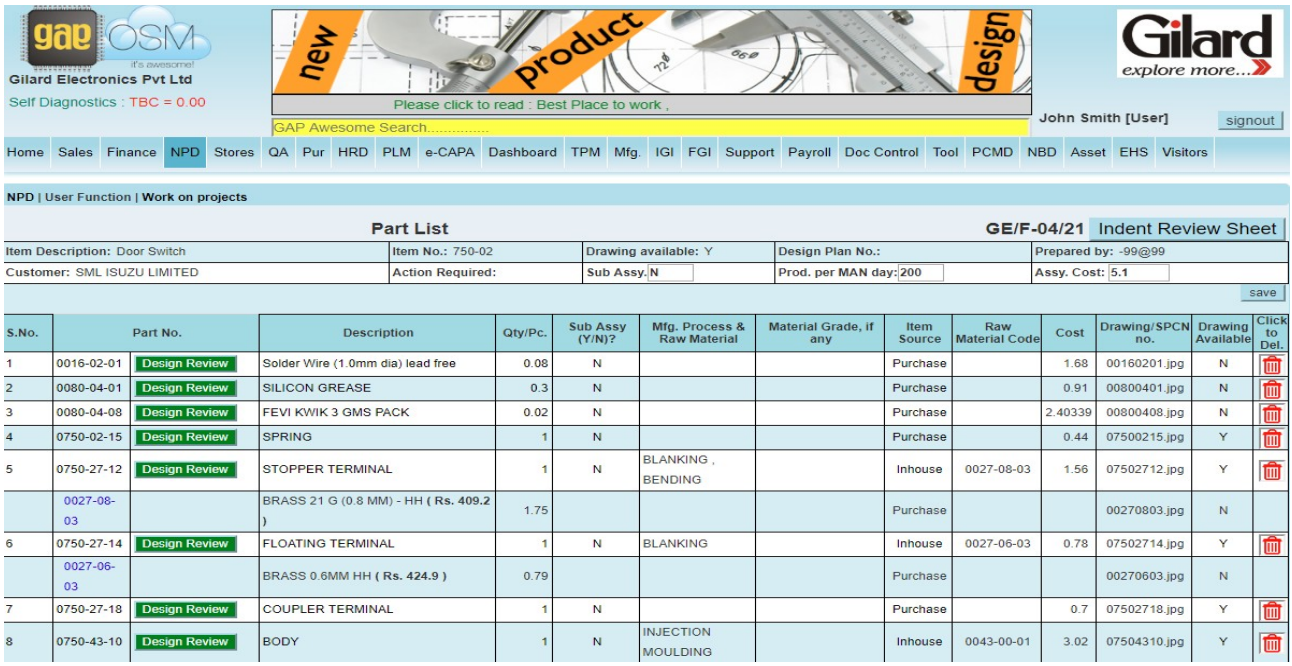
| Post Test Observations: | Results |
|---|---|
| | |

Performance(Final)

## Product Costing Sheet

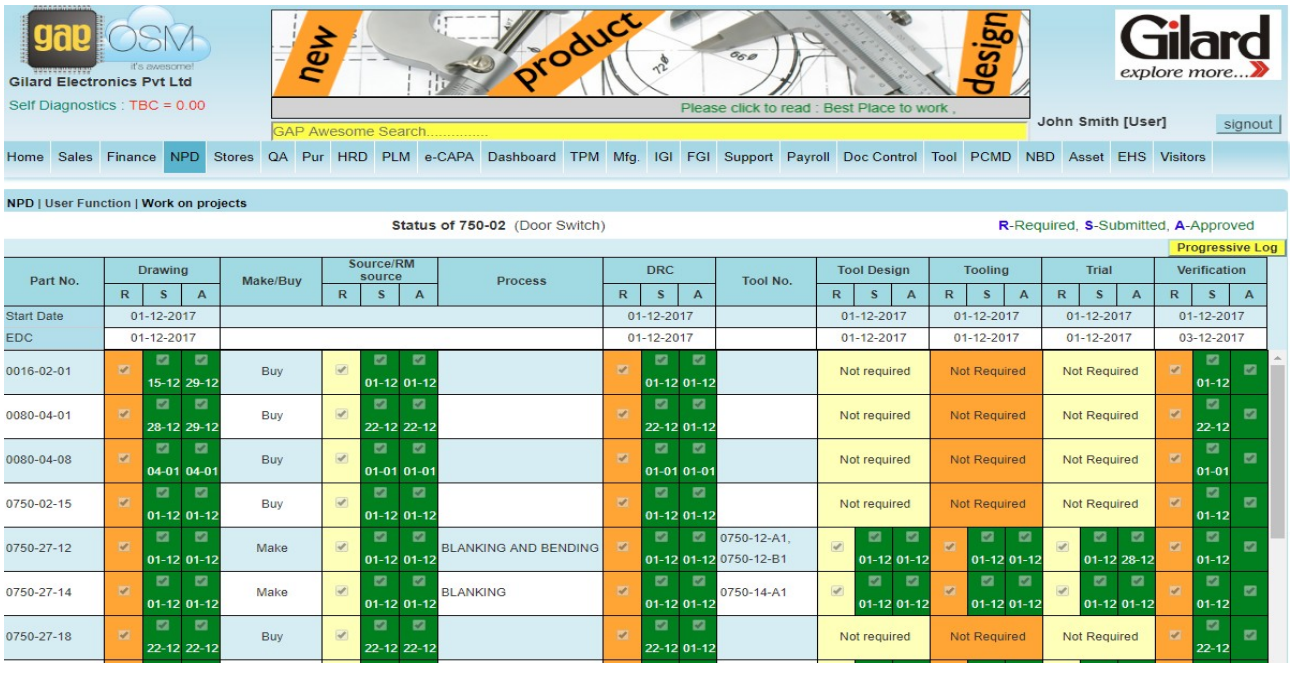


## Part List with details




| S.No. | Part No. | | Description | Qty/Pc. | Sub Assy (Y/N)? | Mfg. Process & Raw Material | Material Grade, if any | Item Source | Raw Material Code | Cost | Drawing/SPCN no. | Drawing Available | Click to Del. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0016-02-01 | Design Review | Solder Wire (1.0mm dia) lead free | 0.08 | N | | | Purchase | | 1.68 | 00160201.jpg | N | |
| 2 | 0080-04-01 | Design Review | SILICON GREASE | 0.3 | N | | | Purchase | | 0.91 | 00800401.jpg | N | |
| 3 | 0080-04-08 | Design Review | FEVI KWIK 3 GMS PACK | 0.02 | N | | | Purchase | | 2.40339 | 00800408.jpg | N | |
| 4 | 0750-02-15 | Design Review | SPRING | 1 | N | | | Purchase | | 0.44 | 07500215.jpg | Y | |
| 5 | 0750-27-12 | Design Review | STOPPER TERMINAL | 1 | N | BLANKING , BENDING | | Inhouse | 0027-08-03 | 1.56 | 07502712.jpg | Y | |
| | 0027-08-03 | | BRASS 21 G (0.8 MM) - HH ( Rs. 409.2 ) | 1.75 | | | | Purchase | | | 00270803.jpg | N | |
| 6 | 0750-27-14 | Design Review | FLOATING TERMINAL | 1 | N | BLANKING | | Inhouse | 0027-06-03 | 0.78 | 07502714.jpg | Y | |
| | 0027-06-03 | | BRASS 0.6MM HH ( Rs. 424.9 ) | 0.79 | | | | Purchase | | | 00270603.jpg | N | |
| 7 | 0750-27-18 | Design Review | COUPLER TERMINAL | 1 | N | | | Purchase | | 0.7 | 07502718.jpg | Y | |
| 8 | 0750-43-10 | Design Review | BODY | 1 | N | INJECTION MOULDING | | Inhouse | 0043-00-01 | 3.02 | 07504310.jpg | Y | |

## Development Status Review



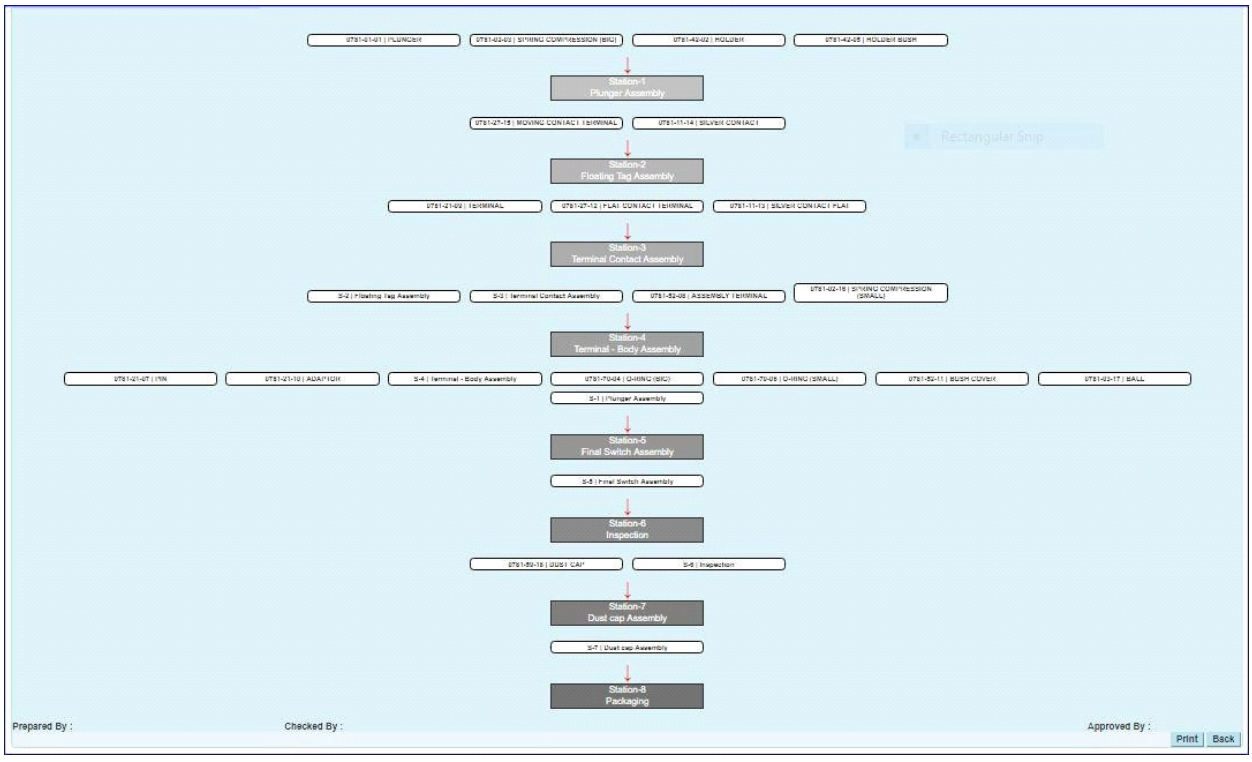

| Part No. | Drawing | | | Make/Buy | Source/RM source | | | Process | DRC | | | Tool No. | Tool Design | | | Tooling | | | Trial | | | Verification | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R | S | A | | R | S | A | | R | S | A | | R | S | A | R | S | A | R | S | A | R | S | A |
| Start Date | 01-12-2017 | | | | | | | | 01-12-2017 | | | | 01-12-2017 | | | 01-12-2017 | | | 01-12-2017 | | | 01-12-2017 | | |
| EDC | 01-12-2017 | | | | | | | | 01-12-2017 | | | | 01-12-2017 | | | 01-12-2017 | | | 01-12-2017 | | | 03-12-2017 | | |
| 0016-02-01 | ✓ | 15-12 | 29-12 | Buy | ✓ | 01-12 | 01-12 | | ✓ | 01-12 | 01-12 | | Not required | | | Not Required | | | Not Required | | | ✓ | 01-12 | ✓ |
| 0080-04-01 | ✓ | 28-12 | 29-12 | Buy | ✓ | 22-12 | 22-12 | | ✓ | 22-12 | 01-12 | | Not required | | | Not Required | | | Not Required | | | ✓ | 22-12 | ✓ |
| 0080-04-08 | ✓ | 04-01 | 04-01 | Buy | ✓ | 01-01 | 01-01 | | ✓ | 01-01 | 01-01 | | Not required | | | Not Required | | | Not Required | | | ✓ | 01-01 | ✓ |
| 0750-02-15 | ✓ | 01-12 | 01-12 | Buy | ✓ | 01-12 | 01-12 | | ✓ | 01-12 | 01-12 | | Not required | | | Not Required | | | Not Required | | | ✓ | 01-12 | ✓ |
| 0750-27-12 | ✓ | 01-12 | 01-12 | Make | ✓ | 01-12 | 01-12 | BLANKING AND BENDING | ✓ | 01-12 | 01-12 | 0750-12-A1, 0750-12-B1 | ✓ | 01-12 | 01-12 | ✓ | 01-12 | 01-12 | ✓ | 01-12 | 28-12 | ✓ | 01-12 | ✓ |
| 0750-27-14 | ✓ | 01-12 | 01-12 | Make | ✓ | 01-12 | 01-12 | BLANKING | ✓ | 01-12 | 01-12 | 0750-14-A1 | ✓ | 01-12 | 01-12 | ✓ | 01-12 | 01-12 | ✓ | 01-12 | 01-12 | ✓ | 01-12 | ✓ |
| 0750-27-18 | ✓ | 22-12 | 22-12 | Buy | ✓ | 22-12 | 22-12 | | ✓ | 22-12 | 01-12 | | Not required | | | Not Required | | | Not Required | | | ✓ | 22-12 | ✓ |

## Defining the Process Stations with Required Inputs

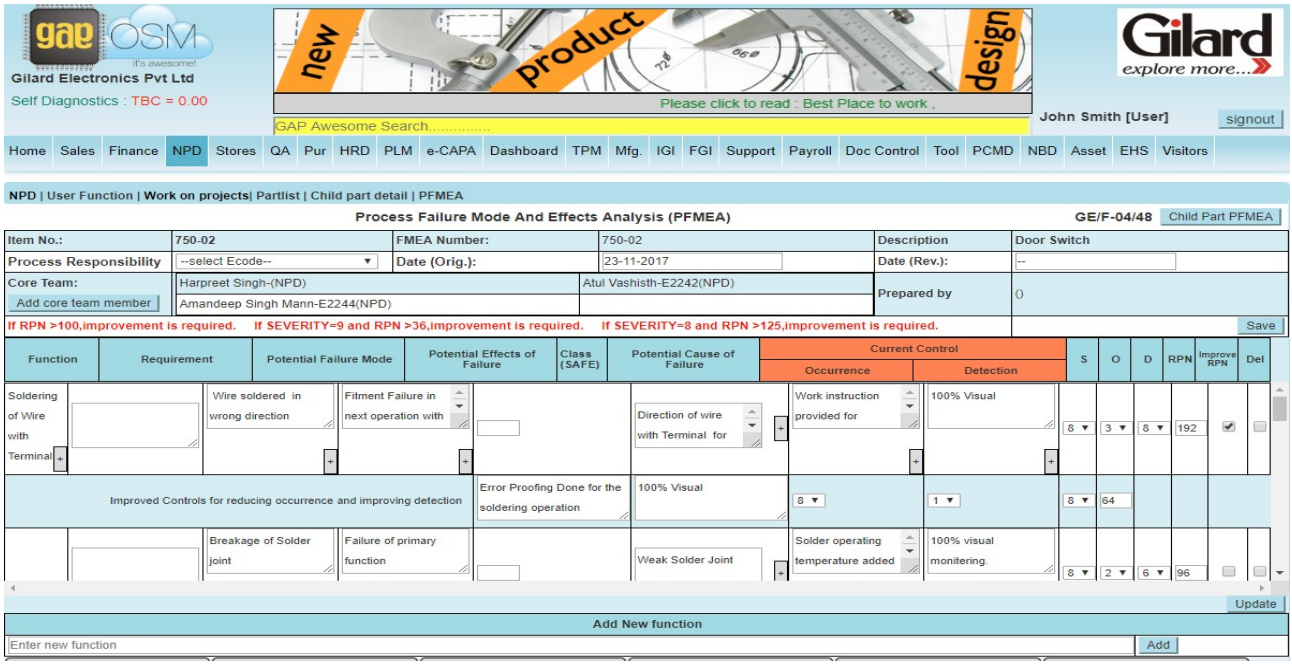
**Process Flow Chart Of** 750-02-Door Switch — **GE/F-04/40**

| S. No. | Stn. No. | Process Description | Inputs | (T)ool / (M)achine / (C)hecking Aids | Cycle Time | Action | Add Input | Delete Input |
|---|---|---|---|---|---|---|---|---|
| 1 | S-10 | Soldering of Wire with Terminal | 0016-01-02 (FRYSOL PASTE FLUX) 0.02<br>0750-27-14 (FLOATING TERMINAL) 1<br>0750-73-16 (PVC WIRE BLACK) 1<br>0016-02-01 (Solder Wire (1.0mm dia) lead free) 0.08 | T --Select Tool +<br>M --Select Machine--<br>C -Select- +<br>*Added Tools*<br>M-750-001<br>*Added Machines*<br>*Checking Aids* | 26 | Save<br>Add Img. | -Add | -Del- |
| Process Detail : Enter Process Procedure | | | | | | Save | | |
| 2 | S-20 | Assembly of S-1 with Slider | S-1 1<br>0750-43-11 (SLIDER) 1 | T --Select Tool +<br>M --Select Machine--<br>C -Select- +<br>*Added Machines*<br>*Checking Aids* | 31 | Save<br>Add Img. | -Add | -Del- |
| Process Detail : Enter Process Procedure | | | | | | Save | | |
| 3 | S-30 | Adhesive Filling | 0080-04-22 (ARALDITE (HARDENER & RESIN)) 1<br>S-2 1.5 | T --Select Tool +<br>M --Select Machine--<br>C -Select- +<br>*Added Machines*<br>-000- OPERATOR/ASSEMBLER<br>*Checking Aids* | 125 | Save<br>Add Img. | -Add | -Del- |
| Process Detail : Enter Process Procedure | | | | | | Save | | |
| 4 | S-40 | Assembly of S-3 with Body and Spring | S-3 0<br>0750-43-10 (BODY) 1<br>0750-02-15 (SPRING) 1 | T --Select Tool +<br>M --Select Machine--<br>C -Select- +<br>*Added Machines*<br>*Checking Aids* | 30 | Save<br>Add Img. | -Add | -Del- |
| Process Detail : Enter Process Procedure | | | | | | Save | | |

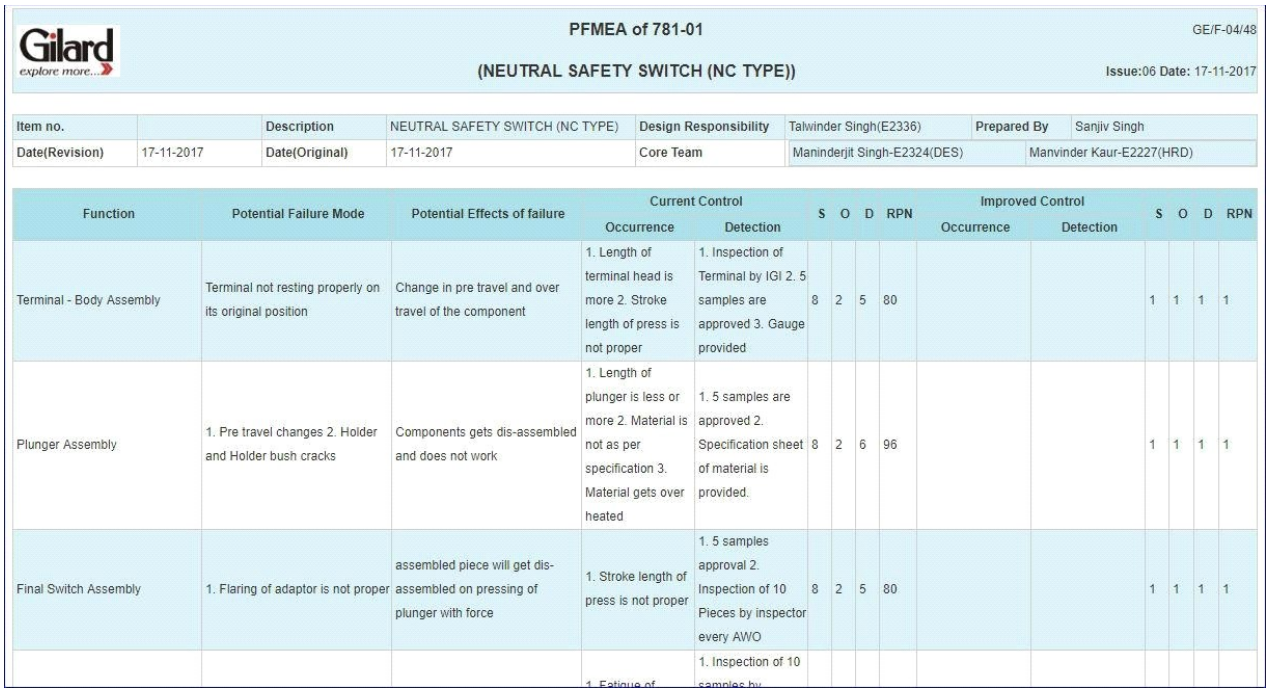
## Process Flow Chart



## Process FMEA Work Sheet




## Process FMEA Print Out



Gilard explore more...

PFMEA of 781-01

(NEUTRAL SAFETY SWITCH (NC TYPE))

GE/F-04/48

Issue:06 Date: 17-11-2017

| Item no. | | Description | NEUTRAL SAFETY SWITCH (NC TYPE) | Design Responsibility | Talwinder Singh(E2336) | Prepared By | Sanjiv Singh |
|---|---|---|---|---|---|---|---|
| Date(Revision) | 17-11-2017 | Date(Original) | 17-11-2017 | Core Team | Maninderjit Singh-E2324(DES) | | Manvinder Kaur-E2227(HRD) |

| Function | Potential Failure Mode | Potential Effects of failure | Current Control | | S | O | D | RPN | Improved Control | | S | O | D | RPN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Occurrence | Detection | | | | | Occurrence | Detection | | | | |
| Terminal - Body Assembly | Terminal not resting properly on its original position | Change in pre travel and over travel of the component | 1. Length of terminal head is more 2. Stroke length of press is not proper | 1. Inspection of Terminal by IGI 2. 5 samples are approved 3. Gauge provided | 8 | 2 | 5 | 80 | | | 1 | 1 | 1 | 1 |
| Plunger Assembly | 1. Pre travel changes 2. Holder and Holder bush cracks | Components gets dis-assembled and does not work | 1. Length of plunger is less or more 2. Material is not as per specification 3. Material gets over heated | 1. 5 samples are approved 2. Specification sheet of material is provided. | 8 | 2 | 6 | 96 | | | 1 | 1 | 1 | 1 |
| Final Switch Assembly | 1. Flaring of adaptor is not proper | assembled piece will get dis-assembled on pressing of plunger with force | 1. Stroke length of press is not proper | 1. 5 samples approval 2. Inspection of 10 Pieces by inspector every AWO | 8 | 2 | 5 | 80 | | | 1 | 1 | 1 | 1 |
| | | | 1. Fatigue of | 1. Inspection of 10 samples by | | | | | | | | | | |

## Special Characteristics Matrix

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**Special Characteristics Matrix**

Date : 17th of November 2017
Time : 10:30:41 AM
User : Sanjiv Singh

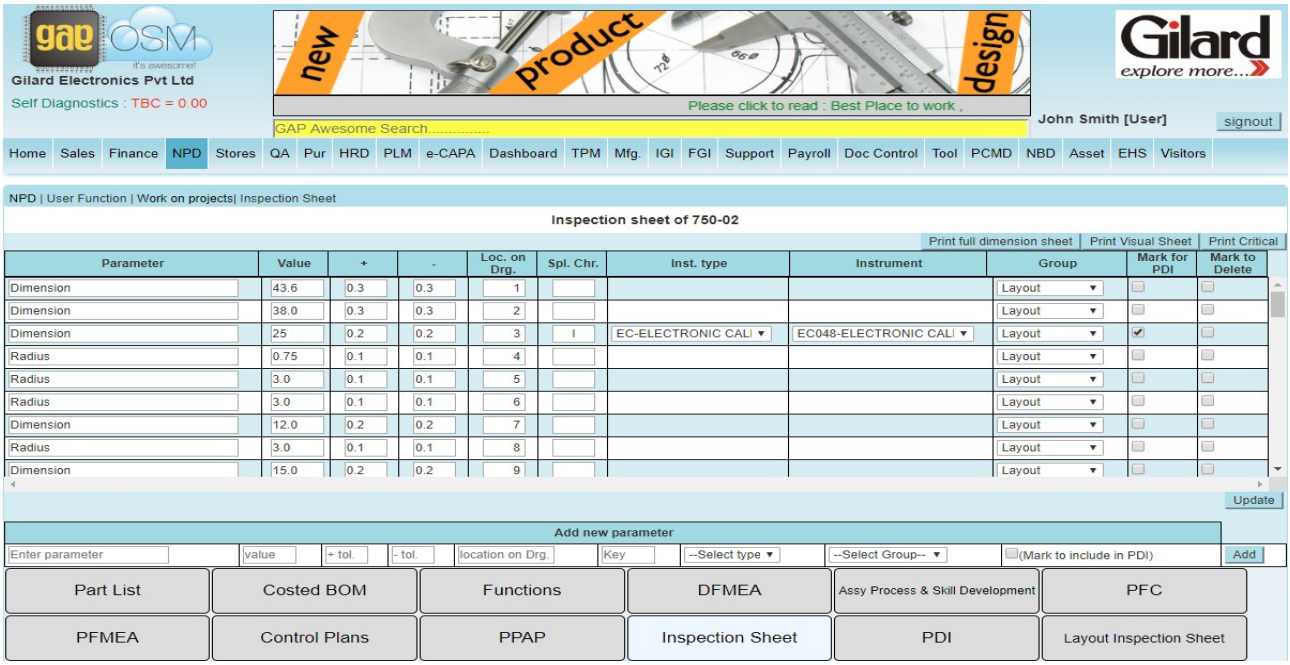
Special characteristics is a product characteristics that can affect safety or compliance with Regulation,fit function,performance or subsequent process of product.
Special characteristic can be classified as :

**(1) Safety Characteristics (S)** : Are those which affects the product safety,operator safety and compliance with regulatory requirements.
**(2) Product Characteristics (A)** : Are those which affect the aesthetics of product.
**(3) Fit and Function characteristics (F)** : Are those which affect fit and function of product.
**(4) Environmental characteristics (E)** : Are those which are affected by the environment.

| Item number | 781-01 | Description | NEUTRAL SAFETY SWITCH (NC TYPE) | Customer | C10052-PRICOL LIMITED |
|---|---|---|---|---|---|
| Date(Original) | -- | Date(Revision) | -- | Project I/C | Talwinder Singh(E2336) |

| S.No. | Function | Tolerance | SPL.CHR | Source Of SPL. CHAR. | | | | | Control of SPL. CHAR. | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cust. Specified | Feasibility Study | CAPA | D/P FMEA | Others | DRG./SPEC. | Control Plan | PQP | Others |
| 1 | Push to off at the pressing of plunger | | | | | | | | | | | |
| 2 | Working voltage 24+- 0.5 V DC | | | | | | | | | | | |
| 3 | Mounting | | | | | | | | | | | |
| 4 | Terminal Fitting with Coupler at customer end | | | | | | | | | | | |
| 5 | Switching point (ON) | | | | | | | | | | | |
| 6 | Operating Stroke | | | | | | | | | | | |
| 7 | Operating Force- Contact operation 16N+-20% | | | | | | | | | | | |
| 8 | Operating Force- At full stroke 25N+-20% | | | | | | | | | | | |
| 9 | Silver Plating on Terminal | | | | | | | | | | | |
| 10 | Brass material of Adaptor | | | | | | | | | | | |
| 11 | Ball | | | | | | | | | | | |

## Inspection Sheet for Layout and PDI ( Pre Despatch Inspection )



## Layout Inspection Sheet

Layout Inspection Sheet 781-01 — Date: 17-11-2017

(NEUTRAL SAFETY SWITCH (NC TYPE)) — Time 10:31:29am

| | | | |
|---|---|---|---|
| GE Part | 781-01 | | |
| Part Name: | NEUTRAL SAFETY SWITCH (NC TYPE) | Customer: | C10052-PRICOL LIMITED |

| Dim. No. | Parameter | Specification | | | Actual Observations | | | | | | | | | | Range | Decision |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Value | + | - | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | | |
| 1 | Dimension | 20 | 0.5 | 0.5 | | | | | | | | | | | | |
| 2 | DIMENSION | 11 | 0.2 | 0.2 | | | | | | | | | | | | |
| 3 | DIMENSION | 22.20 | 0.2 | 0.2 | | | | | | | | | | | | |
| 4 | DIMENSION | 8.70 | 0.2 | 0.2 | | | | | | | | | | | | |
| 5 | DIMENSION | 10.00 | 0.2 | 0.2 | | | | | | | | | | | | |
| 6 | DIMENSION | 1.60 | 0.25 | 0.25 | | | | | | | | | | | | |
| 7 | DIMENSION X 2 | 4 | 0.1 | 0.1 | | | | | | | | | | | | |
| 8 | DIMENSION (SWITCHING POINT ON) | 18.4 | 0.5 | 0.3 | | | | | | | | | | | | |
| 9 | DIMENSION (OPERTING STROKE) | 13 | | 1 | | | | | | | | | | | | |
| 10 | DIA (MAX) | 29 | 0.2 | 0.2 | | | | | | | | | | | | |
| 11 | DIMENSION (A/F) | 27 | | 0.33 | | | | | | | | | | | | |
| 12 | DIMENSION (M18 X 1.5 -6G) | | | | | | | | | | | | | | | |
| 14 | DIMENSION (M27 X1 -6G) | | | | | | | | | | | | | | | |
| 15 | DIMENSION | 8.00 | 0.2 | 0.2 | | | | | | | | | | | | |
| 16 | MARKING DETAILS | | | | | | | | | | | | | | | |
| 13 | DIAMETER | 6 | 0.05 | 0.05 | | | | | | | | | | | | |

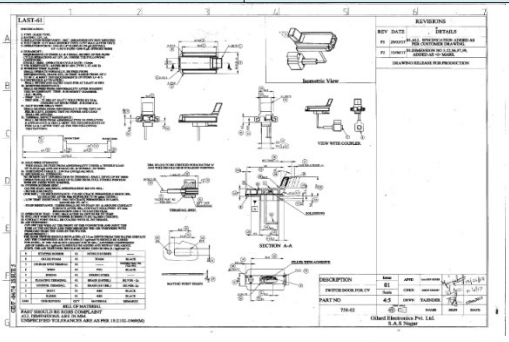
## PDI Sheet

PDI of 750-02
(Door Switch)

Date: 28-08-2019
Time 02:40:56pm
Doc No: GE/F-10/27

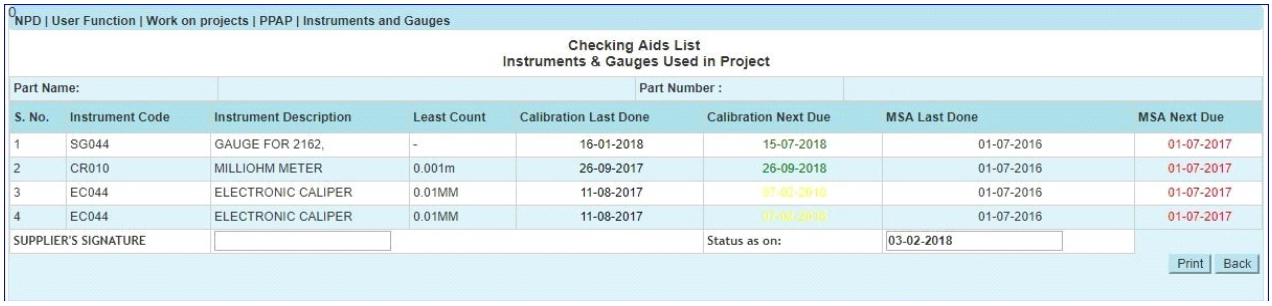
| | | | |
|---|---|---|---|
| Item : | 750-02 | No. : | |
| Part Name: | Door Switch | Customer: | C7453-SML ISUZU LIMITED |

Sample Size For Dimensional Check : (Sampling plan:) — Random Data ○Yes ○No — Sample Size For Attribute Check : — AQL :



| Loc | Parameter | Test method | Equipment | Acceptance | |
|---|---|---|---|---|---|
| Apperance | | | | | |
| 0 | No Flash in Moulded part | | | | |
| 0 | NoCut marks on insulation of wire. | | | | |
| 0 | No Spilage of Araldite on Body | | | | |
| 0 | Stopper Rubber should be Propely fit on Slider head | | | | |
| 0 | Coupler Terminal should not come outside from Coupler | | | | |
| Functional | | | | | |

## Checking Aids List



NPD | User Function | Work on projects | PPAP | Instruments and Gauges

Checking Aids List
Instruments & Gauges Used in Project

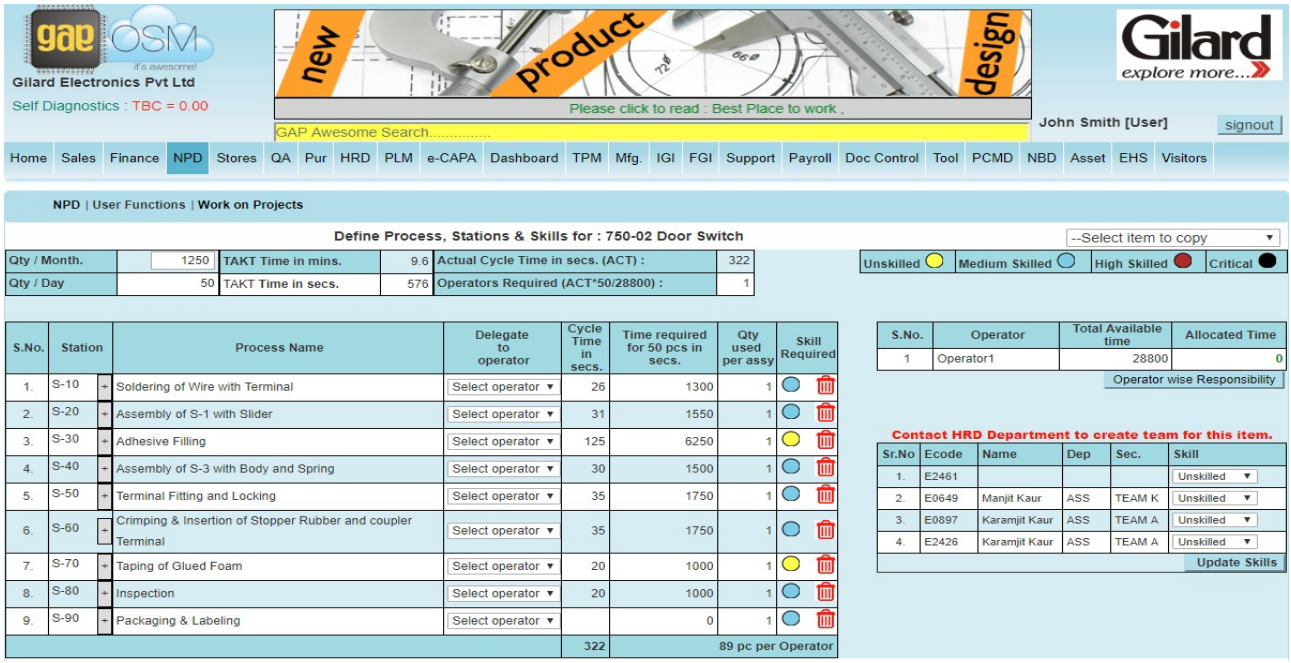
Part Name: | Part Number :

| S. No. | Instrument Code | Instrument Description | Least Count | Calibration Last Done | Calibration Next Due | MSA Last Done | MSA Next Due |
|---|---|---|---|---|---|---|---|
| 1 | SG044 | GAUGE FOR 2162, | - | 16-01-2018 | 15-07-2018 | 01-07-2016 | 01-07-2017 |
| 2 | CR010 | MILLIOHM METER | 0.001m | 26-09-2017 | 26-09-2018 | 01-07-2016 | 01-07-2017 |
| 3 | EC044 | ELECTRONIC CALIPER | 0.01MM | 11-08-2017 | 07-02-2018 | 01-07-2016 | 01-07-2017 |
| 4 | EC044 | ELECTRONIC CALIPER | 0.01MM | 11-08-2017 | 07-02-2018 | 01-07-2016 | 01-07-2017 |

SUPPLIER'S SIGNATURE | Status as on: 03-02-2018

Print | Back

## Skills Required and Available Plan



Gilard Electronics Pvt Ltd
Self Diagnostics : TBC = 0.00
Please click to read : Best Place to work ,
GAP Awesome Search.....
John Smith [User] signout

Home | Sales | Finance | NPD | Stores | QA | Pur | HRD | PLM | e-CAPA | Dashboard | TPM | Mfg. | IGI | FGI | Support | Payroll | Doc Control | Tool | PCMD | NBD | Asset | EHS | Visitors

NPD | User Functions | Work on Projects

Define Process, Stations & Skills for : 750-02 Door Switch

--Select item to copy

| | | | | | |
|---|---|---|---|---|---|
| Qty / Month. | 1250 | TAKT Time in mins. | 9.6 | Actual Cycle Time in secs. (ACT) : | 322 |
| Qty / Day | 50 | TAKT Time in secs. | 576 | Operators Required (ACT*50/28800) : | 1 |

Unskilled | Medium Skilled | High Skilled | Critical

| S.No. | Station | Process Name | Delegate to operator | Cycle Time in secs. | Time required for 50 pcs in secs. | Qty used per assy | Skill Required |
|---|---|---|---|---|---|---|---|
| 1. | S-10 | Soldering of Wire with Terminal | Select operator | 26 | 1300 | 1 | |
| 2. | S-20 | Assembly of S-1 with Slider | Select operator | 31 | 1550 | 1 | |
| 3. | S-30 | Adhesive Filling | Select operator | 125 | 6250 | 1 | |
| 4. | S-40 | Assembly of S-3 with Body and Spring | Select operator | 30 | 1500 | 1 | |
| 5. | S-50 | Terminal Fitting and Locking | Select operator | 35 | 1750 | 1 | |
| 6. | S-60 | Crimping & Insertion of Stopper Rubber and coupler Terminal | Select operator | 35 | 1750 | 1 | |
| 7. | S-70 | Taping of Glued Foam | Select operator | 20 | 1000 | 1 | |
| 8. | S-80 | Inspection | Select operator | 20 | 1000 | 1 | |
| 9. | S-90 | Packaging & Labeling | Select operator | | 0 | 1 | |
| | | | | 322 | | 89 pc per Operator | |

| S.No. | Operator | Total Available time | Allocated Time |
|---|---|---|---|
| 1 | Operator1 | 28800 | 0 |

Operator wise Responsibility

Contact HRD Department to create team for this item.

| Sr.No | Ecode | Name | Dep | Sec. | Skill |
|---|---|---|---|---|---|
| 1. | E2461 | | | | Unskilled |
| 2. | E0649 | Manjit Kaur | ASS | TEAM K | Unskilled |
| 3. | E0897 | Karamjit Kaur | ASS | TEAM A | Unskilled |
| 4. | E2426 | Karamjit Kaur | ASS | TEAM A | Unskilled |

Update Skills

## Skills Development Plan

Gilard explore more...

Skill Level PLanning Sheet For Series 781-01

Date:17-11-2017

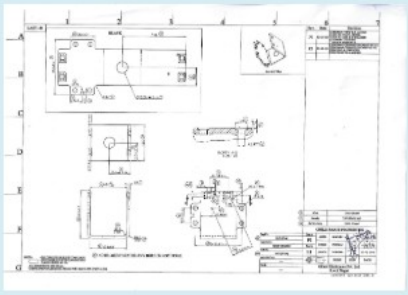
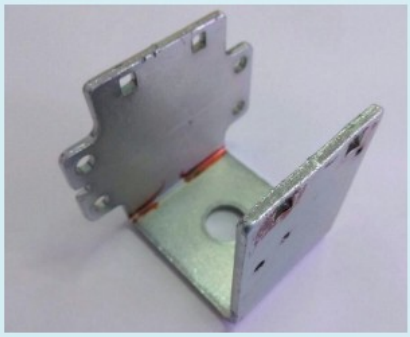
| Sr.No | E-Code | Name | As Is | Terminal - Body | Plunger Assembly | Final Switch | Inspection | Dust cap | Packaging |
|---|---|---|---|---|---|---|---|---|---|
| 1 | E0103 | Neelam Devi | H | | ● | | | | |
| 2 | E0923 | Amarjit Kaur | H | | ● | | | | |
| 3 | E0980 | Karamjeet Kaur | H | | ● | | | | |
| 4 | E0982 | Bhavana | H | | ● | | | | |
| 5 | E1253 | Bhupinder Kaur | H | | ● | | | | |
| 6 | E1310 | Pratima Gupta | U | ○ | | ○ | ○ | ○ | |
| 7 | E1378 | Sapna Devi | M | | ○ | ● | | | |
| 8 | E1512 | Roshani | M | | ○ | ● | | | |
| 9 | E1658 | Rajni | M | | ○ | ● | | | |
| 10 | E1734 | Gursharan Kaur | M | | ○ | ● | | | |
| 11 | E1965 | Sheetal Kumari | U | ○ | | ○ | ○ | ○ | |

Print Preview | Back

## Child Part Detailing

**Child part details**

| Child Part number: | 2197-07-06 | Description: | MAIN CHASSIS |
|---|---|---|---|
| Part type: | CHILD PARTS | Source: | Purchase |

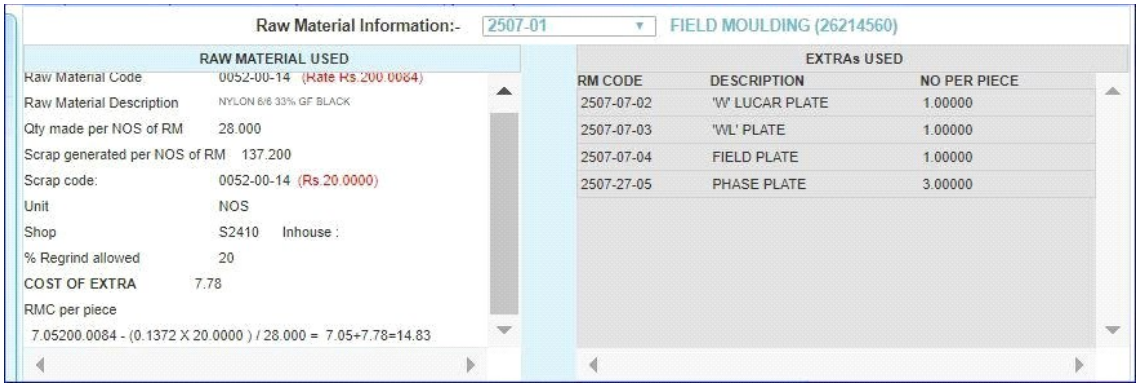
| Drawing | Picture |
|---|---|
|  |  |
| Choose File No file chosen | Choose File No file chosen |

Update | Back

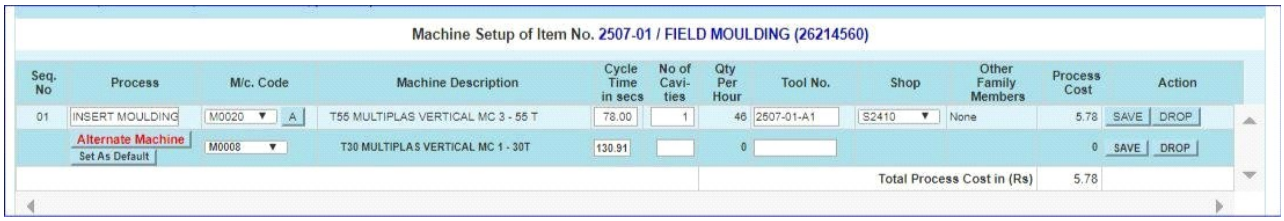
Raw Material | Plating data | PFC / Machine Setup | Control Plan

Drawing | Picture | Inspection | PFMEA

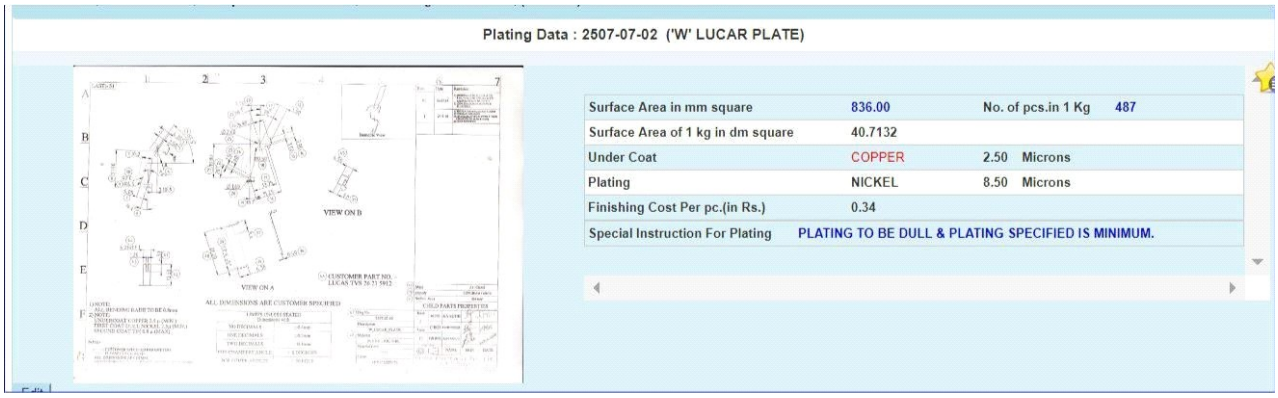
## Child Part Raw material details



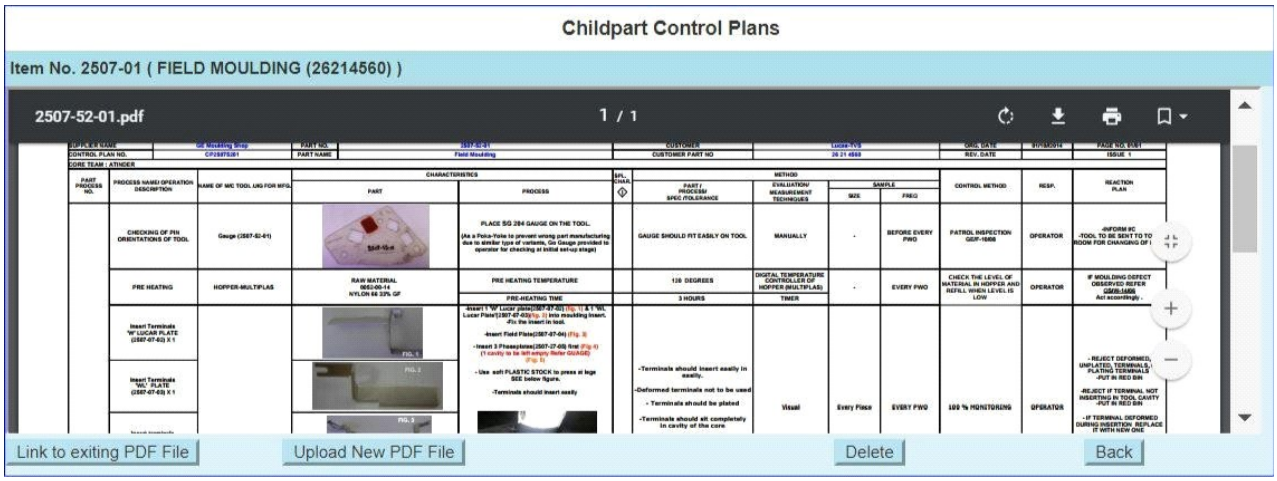

## Child Part Processing Details



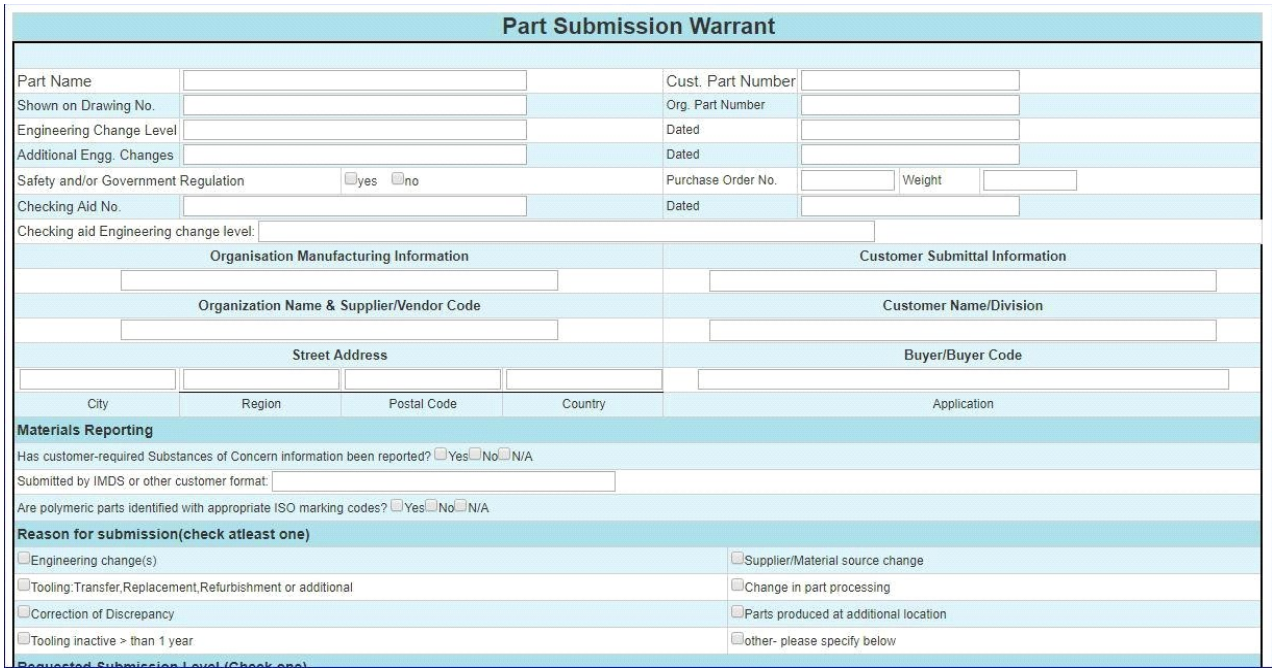

## Child Part Finishing details



## Child Part Control Plans




## Part Submission Warrant



**Part Submission Warrant**

| | | | |
|---|---|---|---|
| Part Name | | Cust. Part Number | |
| Shown on Drawing No. | | Org. Part Number | |
| Engineering Change Level | | Dated | |
| Additional Engg. Changes | | Dated | |
| Safety and/or Government Regulation | yes no | Purchase Order No. | Weight |
| Checking Aid No. | | Dated | |
| Checking aid Engineering change level: | | | |

| Organisation Manufacturing Information | Customer Submittal Information |
|---|---|
| Organization Name & Supplier/Vendor Code | Customer Name/Division |
| Street Address | Buyer/Buyer Code |
| City / Region / Postal Code / Country | Application |

**Materials Reporting**

Has customer-required Substances of Concern information been reported? Yes No N/A

Submitted by IMDS or other customer format:

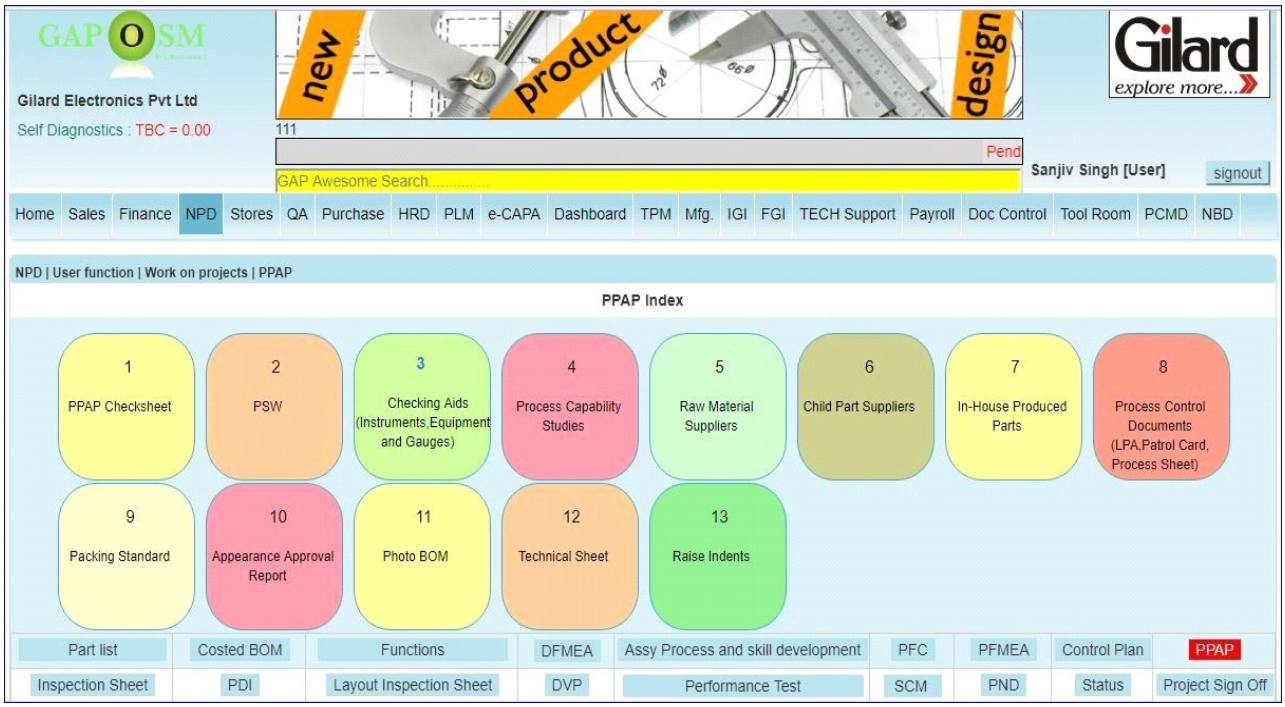
Are polymeric parts identified with appropriate ISO marking codes? Yes No N/A

**Reason for submission(check atleast one)**

| | |
|---|---|
| Engineering change(s) | Supplier/Material source change |
| Tooling:Transfer,Replacement,Refurbishment or additional | Change in part processing |
| Correction of Discrepancy | Parts produced at additional location |
| Tooling inactive > than 1 year | other- please specify below |

**Requested Submission Level (Check one)**

# PPAP Documents





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