

# PART SUBMISSION WARRANT

Part Name <u>34 W/M Hybrid Sealed Connector Assembly</u>		Customer Part Number <u>FU5T-14A624-CC(000)</u>	
Shown on Drawing No. <u>FU5T-14A624-CC</u>		Supplier Part Number <u>60013512A01C(000)</u>	
Engineering Change Level <u>BN1 AELE-E-12035198-482</u>		Dated <u>15-Jan-2019</u>	
Additional Engineering Changes <u>Na</u>		Dated <u>Na</u>	
Safety and/or Government Regulation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Purchase Order No. <u>Na</u>	
Weight (kg) <u>0.0581</u>			
Checking Aid No. <u>Na</u>		Checking Aid Engineering Change Level <u>Na</u>	
Dated <u>Na</u>			

<b>SUPPLIER MANUFACTURING INFORMATION</b> Western Diversified Plastics / 609123190 <hr/> Supplier Name & Supplier/Vendor Code <hr/> 53150 N. Main St. <hr/> Street Address <hr/> Mattawan MI 49071 USA <hr/> City State Postal Code Country	<b>CUSTOMER SUBMITTAL INFORMATION</b> Nursan Otomotiv EOOD <hr/> Customer Name/Division <hr/> Buyer/Buyer Code <hr/> Ford <hr/> Application
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**MATERIALS REPORTING**  
 Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No ☐ Not Applicable  


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 IMDS -504617055 / 4  


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 Are polymeric parts identified with appropriate ISO marking codes? ☒ Yes ☐ No ☐ Not Applicable  


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**REASON FOR SUBMISSION** (Check at least one)  

<input type="checkbox"/> Initial Submission <input type="checkbox"/> Engineering Change(s) <input type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional <input type="checkbox"/> Correction of Discrepancy <input type="checkbox"/> Tooling Inactive > than 1 year	<input type="checkbox"/> Change to Optional Construction or Material <input type="checkbox"/> Supplier or Material Source Change <input type="checkbox"/> Change in Part Processing <input type="checkbox"/> Parts Produced at Additional Location <input checked="" type="checkbox"/> Other - please specify below
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**REQUESTED SUBMISSION LEVEL** (Check one)  
☐ Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.  
☐ Level 2 - Warrant with product samples and limited supporting data submitted to customer.  
☒ Level 3 - Warrant with product samples and complete supporting data submitted to customer.  
☐ Level 4 - Warrant and other requirements as defined by customer.  
☐ Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.
   
  
**SUBMISSION RESULTS**  
 The results for ☒ dimensional measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package  
 These results meet all drawing and specification requirements: ☒ Yes ☐ No (If "No" - Explanation Required)  
 Mold / Cavity / Production Process Assembly
  
  
**DECLARATION**  
 I hereby affirm that the samples represented by this warrant are representative of our parts which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of 10000 / 8 hours.  
 I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from the declaration below.  
 EXPLANATION / COMMENTS: Customer requested revalidation  


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 Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a  


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 Supplier Authorized Signature Alice Lossie Date 20-Feb-19  


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 Print Name Alice Lossie Phone No. 269-668-3393 Fax No. 269-668-7143  


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 Title Quality Engineer E-mail Alice.Lossie@westerndp.com  


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 Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other \_\_\_\_\_  


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 Customer Signature \_\_\_\_\_ Date \_\_\_\_\_  


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 Print Name \_\_\_\_\_ Customer Tracking Number (optional) \_\_\_\_\_

# PART SUBMISSION WARRANT

Part Name <u>34 W/M Hybrid Sealed Connector Assembly</u>		Customer Part Number <u>FU5T-14A624-CC(146)</u>	
Shown on Drawing No. <u>FU5T-14A624-CC</u>		Supplier Part Number <u>60013512A01C(146)</u>	
Engineering Change Level <u>BN1 AELE-E-12035198-482</u>		Dated <u>15-Jan-2019</u>	
Additional Engineering Changes <u>Na</u>		Dated <u>Na</u>	
Safety and/or Government Regulation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Purchase Order No. <u>Na</u> Weight (kg) <u>0.0581</u>	
Checking Aid No. <u>Na</u> Checking Aid Engineering Change Level <u>Na</u>		Dated <u>Na</u>	

<b>SUPPLIER MANUFACTURING INFORMATION</b> Western Diversified Plastics / 609123190 <hr/> Supplier Name & Supplier/Vendor Code <hr/> 53150 N. Main St. <hr/> Street Address <hr/> Mattawan MI 49071 USA <hr/> City State Postal Code Country	<b>CUSTOMER SUBMITTAL INFORMATION</b> Nursan Otomotiv EOOD <hr/> Customer Name/Division <hr/> Buyer/Buyer Code <hr/> Ford <hr/> Application
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**MATERIALS REPORTING**  
 Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No ☐ Not Applicable  


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 IMDS -656580969 / 1  


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 Are polymeric parts identified with appropriate ISO marking codes? ☒ Yes ☐ No ☐ Not Applicable  


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**REASON FOR SUBMISSION** (Check at least one)  

<input type="checkbox"/> Initial Submission <input type="checkbox"/> Engineering Change(s) <input type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional <input type="checkbox"/> Correction of Discrepancy <input type="checkbox"/> Tooling Inactive > than 1 year	<input type="checkbox"/> Change to Optional Construction or Material <input type="checkbox"/> Supplier or Material Source Change <input type="checkbox"/> Change in Part Processing <input type="checkbox"/> Parts Produced at Additional Location <input checked="" type="checkbox"/> Other - please specify below
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**REQUESTED SUBMISSION LEVEL** (Check one)  

<input type="checkbox"/> Level 1 - Warrant only (and for designated appearance items, an Appearance Approval Report) submitted to customer.
<input type="checkbox"/> Level 2 - Warrant with product samples and limited supporting data submitted to customer.
<input checked="" type="checkbox"/> Level 3 - Warrant with product samples and complete supporting data submitted to customer.
<input type="checkbox"/> Level 4 - Warrant and other requirements as defined by customer.
<input type="checkbox"/> Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.

  
**SUBMISSION RESULTS**  
 The results for ☒ dimensional measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package  
 These results meet all drawing and specification requirements: ☒ Yes ☐ No (If "No" - Explanation Required)  
 Mold / Cavity / Production Process Assembly

## DECLARATION

I hereby affirm that the samples represented by this warrant are representative of our parts which were made by a process that meets all Production Part Approval Process Manual 4th Edition Requirements. I further affirm that these samples were produced at the production rate of 10000 / 8 hours. I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from the declaration below.

EXPLANATION / COMMENTS: Customer requested revalidation

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a

Supplier Authorized Signature Alice Lossie Date 20-Feb-19  
 Print Name Alice Lossie Phone No. 269-668-3393 Fax No. 269-668-7143  
 Title Quality Engineer E-mail Alice.Lossie@westerndp.com

Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other \_\_\_\_\_  
 Customer Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Print Name \_\_\_\_\_ Customer Tracking Number (optional) \_\_\_\_\_

# PART SUBMISSION WARRANT

Part Name <u>34 W/M Hybrid Sealed Connector Assembly</u>		Customer Part Number <u>FU5T-14A624-CC(179)</u>	
Shown on Drawing No. <u>FU5T-14A624-CC</u>		Supplier Part Number <u>60013512A01C(179)</u>	
Engineering Change Level <u>BN1 AELE-E-12035198-482</u>		Dated <u>15-Jan-2019</u>	
Additional Engineering Changes <u>Na</u>		Dated <u>Na</u>	
Safety and/or Government Regulation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Purchase Order No. <u>Na</u> Weight (kg) <u>0.0581</u>	
Checking Aid No. <u>Na</u> Checking Aid Engineering Change Level <u>Na</u>		Dated <u>Na</u>	

<b>SUPPLIER MANUFACTURING INFORMATION</b> Western Diversified Plastics / 609123190 <hr/> Supplier Name & Supplier/Vendor Code <hr/> 53150 N. Main St. <hr/> Street Address <hr/> Mattawan MI 49071 USA <hr/> City State Postal Code Country	<b>CUSTOMER SUBMITTAL INFORMATION</b> Nursan Otomotiv EOOD <hr/> Customer Name/Division <hr/> Buyer/Buyer Code <hr/> Ford <hr/> Application
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**MATERIALS REPORTING**  
 Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No ☐ Not Applicable  


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 IMDS -527369793 / 1  


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 Are polymeric parts identified with appropriate ISO marking codes? ☒ Yes ☐ No ☐ Not Applicable  


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**REASON FOR SUBMISSION** (Check at least one)  

<input type="checkbox"/> Initial Submission <input type="checkbox"/> Engineering Change(s) <input type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional <input type="checkbox"/> Correction of Discrepancy <input type="checkbox"/> Tooling Inactive > than 1 year	<input type="checkbox"/> Change to Optional Construction or Material <input type="checkbox"/> Supplier or Material Source Change <input type="checkbox"/> Change in Part Processing <input type="checkbox"/> Parts Produced at Additional Location <input checked="" type="checkbox"/> Other - please specify below
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☐ Level 5 - Warrant with product samples and complete supporting data reviewed at organization's manufacturing location.
   
  
**SUBMISSION RESULTS**  
 The results for ☒ dimensional measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package  
 These results meet all drawing and specification requirements: ☒ Yes ☐ No (If "No" - Explanation Required)  
 Mold / Cavity / Production Process Assembly
  
  
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 I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from the declaration below.  
 EXPLANATION / COMMENTS: Customer requested revalidation  


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 Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a  
 Supplier Authorized Signature Alice Lossie Date 20-Feb-19  
 Print Name Alice Lossie Phone No. 269-668-3393 Fax No. 269-668-7143  
 Title Quality Engineer E-mail Alice.Lossie@westerndp.com  


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 Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other  
 Customer Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Print Name \_\_\_\_\_ Customer Tracking Number (optional) \_\_\_\_\_

# PART SUBMISSION WARRANT

Part Name <u>34 W/M Hybrid Sealed Connector Assembly</u>		Customer Part Number <u>FU5T-14A624-CC(210)</u>	
Shown on Drawing No. <u>FU5T-14A624-CC</u>		Supplier Part Number <u>60013512A01C(210)</u>	
Engineering Change Level <u>BN1 AELE-E-12035198-482</u>		Dated <u>15-Jan-2019</u>	
Additional Engineering Changes <u>Na</u>		Dated <u>Na</u>	
Safety and/or Government Regulation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Purchase Order No. <u>Na</u> Weight (kg) <u>0.0581</u>	
Checking Aid No. <u>Na</u> Checking Aid Engineering Change Level <u>Na</u>		Dated <u>Na</u>	

<b>SUPPLIER MANUFACTURING INFORMATION</b> Western Diversified Plastics / 609123190 <hr/> Supplier Name & Supplier/Vendor Code <hr/> 53150 N. Main St. <hr/> Street Address <hr/> Mattawan MI 49071 USA <hr/> City State Postal Code Country	<b>CUSTOMER SUBMITTAL INFORMATION</b> Nursan Otomotiv EOOD <hr/> Customer Name/Division <hr/> Buyer/Buyer Code <hr/> Ford <hr/> Application
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**MATERIALS REPORTING**  
 Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No ☐ Not Applicable  


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 IMDS -527369805 / 1  


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 Are polymeric parts identified with appropriate ISO marking codes? ☒ Yes ☐ No ☐ Not Applicable  


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**REASON FOR SUBMISSION** (Check at least one)  

<input type="checkbox"/> Initial Submission <input type="checkbox"/> Engineering Change(s) <input type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional <input type="checkbox"/> Correction of Discrepancy <input type="checkbox"/> Tooling Inactive > than 1 year	<input type="checkbox"/> Change to Optional Construction or Material <input type="checkbox"/> Supplier or Material Source Change <input type="checkbox"/> Change in Part Processing <input type="checkbox"/> Parts Produced at Additional Location <input checked="" type="checkbox"/> Other - please specify below
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 EXPLANATION / COMMENTS: Customer requested revalidation  


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 Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a  
 Supplier Authorized Signature Alice Lossie Date 20-Feb-19  
 Print Name Alice Lossie Phone No. 269-668-3393 Fax No. 269-668-7143  
 Title Quality Engineer E-mail Alice.Lossie@westerndp.com  


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 Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other \_\_\_\_\_  
 Customer Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Print Name \_\_\_\_\_ Customer Tracking Number (optional) \_\_\_\_\_



# PART SUBMISSION WARRANT

Part Name <u>34 W/M Hybrid Sealed Connector Assembly</u>		Customer Part Number <u>FU5T-14A624-CC(211)</u>	
Shown on Drawing No. <u>FU5T-14A624-CC</u>		Supplier Part Number <u>60013512A01C(211)</u>	
Engineering Change Level <u>BN1 AELE-E-12035198-482</u>		Dated <u>15-Jan-2019</u>	
Additional Engineering Changes <u>Na</u>		Dated <u>Na</u>	
Safety and/or Government Regulation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Purchase Order No. <u>Na</u> Weight (kg) <u>0.0581</u>	
Checking Aid No. <u>Na</u> Checking Aid Engineering Change Level <u>Na</u>		Dated <u>Na</u>	

<b>SUPPLIER MANUFACTURING INFORMATION</b> Western Diversified Plastics / 609123190 <hr/> Supplier Name & Supplier/Vendor Code <hr/> 53150 N. Main St. <hr/> Street Address <hr/> Mattawan MI 49071 USA <hr/> City State Postal Code Country	<b>CUSTOMER SUBMITTAL INFORMATION</b> Nursan Otomotiv EOOD <hr/> Customer Name/Division <hr/> Buyer/Buyer Code <hr/> Ford <hr/> Application
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**MATERIALS REPORTING**  
 Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No ☐ Not Applicable  


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 Are polymeric parts identified with appropriate ISO marking codes? ☒ Yes ☐ No ☐ Not Applicable  


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**REASON FOR SUBMISSION** (Check at least one)  

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 EXPLANATION / COMMENTS: Customer requested revalidation  


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 Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a  
 Supplier Authorized Signature Alice Lossie Date 20-Feb-19  
 Print Name Alice Lossie Phone No. 269-668-3393 Fax No. 269-668-7143  
 Title Quality Engineer E-mail Alice.Lossie@westerndp.com  


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 Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other  
 Customer Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Print Name \_\_\_\_\_ Customer Tracking Number (optional) \_\_\_\_\_

# PART SUBMISSION WARRANT

Part Name <u>34 W/M Hybrid Sealed Connector Assembly</u>		Customer Part Number <u>FU5T-14A624-CC(331)</u>	
Shown on Drawing No. <u>FU5T-14A624-CC</u>		Supplier Part Number <u>60013512A01C(331)</u>	
Engineering Change Level <u>BN1 AELE-E-12035198-482</u>		Dated <u>15-Jan-2019</u>	
Additional Engineering Changes <u>Na</u>		Dated <u>Na</u>	
Safety and/or Government Regulation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Purchase Order No. <u>Na</u> Weight (kg) <u>0.0581</u>	
Checking Aid No. <u>Na</u> Checking Aid Engineering Change Level <u>Na</u>		Dated <u>Na</u>	

<b>SUPPLIER MANUFACTURING INFORMATION</b> Western Diversified Plastics / 609123190 <hr/> Supplier Name & Supplier/Vendor Code <hr/> 53150 N. Main St. <hr/> Street Address <hr/> Mattawan MI 49071 USA <hr/> City State Postal Code Country	<b>CUSTOMER SUBMITTAL INFORMATION</b> Nursan Otomotiv EOOD <hr/> Customer Name/Division <hr/> Buyer/Buyer Code <hr/> Ford <hr/> Application
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**MATERIALS REPORTING**  
 Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No ☐ Not Applicable  


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 IMDS -527369828 / 1  


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 Are polymeric parts identified with appropriate ISO marking codes? ☒ Yes ☐ No ☐ Not Applicable  


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**REASON FOR SUBMISSION** (Check at least one)  

<input type="checkbox"/> Initial Submission <input type="checkbox"/> Engineering Change(s) <input type="checkbox"/> Tooling: Transfer, Replacement, Refurbishment, or additional <input type="checkbox"/> Correction of Discrepancy <input type="checkbox"/> Tooling Inactive > than 1 year	<input type="checkbox"/> Change to Optional Construction or Material <input type="checkbox"/> Supplier or Material Source Change <input type="checkbox"/> Change in Part Processing <input type="checkbox"/> Parts Produced at Additional Location <input checked="" type="checkbox"/> Other - please specify below
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 The results for ☒ dimensional measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package  
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 Mold / Cavity / Production Process Assembly
  
  
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 EXPLANATION / COMMENTS: Customer requested revalidation  


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 Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a  
 Supplier Authorized Signature Alice Lossie Date 20-Feb-19  
 Print Name Alice Lossie Phone No. 269-668-3393 Fax No. 269-668-7143  
 Title Quality Engineer E-mail Alice.Lossie@westerndp.com  


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 Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other  
 Customer Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Print Name \_\_\_\_\_ Customer Tracking Number (optional) \_\_\_\_\_

# Dimensional Layout Inspection Report

W-No. **W-3512**  
 Part No. **See below**  
 Part Name **34-Way Male Hybrid Assembly**

Run Date **01/18/18**  
 Print No. **FU5T-14A624-CC**  
 Revision / Date **BE3 (AELE-E-12035198-459) 6/5/18**

Material **PBT-GF30**  
 Insp. Date **06/07/18**  
 Insp. By **PB/SD**

					Sample Number									
Dim.	Specification	Tol. ±	Lo Lim	Hi Lim	1	2	3	4	5					
FU5T-14A624-CC, 60013512A01C (Sealed A-Pol)														
1	(84.0)	---	0	999	83.98	84.44	84.43	84.00	84.10					
2	(45.4)	---	0	999	45.42	45.45	45.38	45.49	45.47					
3	(67.5)	---	0	999	67.47	67.50	67.49	67.50	67.49					
4	(66.1)	---	0	999	65.95	66.06	66.14	66.09	65.96					
5	(3.7)	---	0	999	3.52	3.55	3.51	3.58	3.63					
6	(35.5)	---	0	999	34.83	34.84	34.81	34.86	34.84					
7	Material ID Note	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
8	R0.3 Max	---	0.00	0.30	0.30	0.30	0.30	0.30	0.30					
9	R0.5	0.3	0.2	0.8	0.50	0.50	0.50	0.50	0.50					
10	Parts free of imperfection	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
FU5T-14A624-DC, 60013512B01C (Sealed B-Pol)														
1	(84.0)	---	0	999	84.01	84.02	83.78	84.02	83.99					
2	(45.4)	---	0	999	45.52	45.55	45.51	45.49	45.47					
3	(67.5)	---	0	999	67.52	67.51	67.52	67.55	67.50					
4	(66.1)	---	0	999	66.20	66.19	66.22	66.18	66.22					
5	(3.7)	---	0	999	3.51	3.55	3.52	3.55	3.50					
6	(35.5)	---	0	999	34.81	34.80	34.81	34.82	34.85					
7	Material ID Note	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
8	R0.3 Max	---	0.00	0.30	0.30	0.30	0.30	0.30	0.30					
9	R0.5	0.3	0.2	0.8	0.50	0.50	0.50	0.50	0.50					
10	Parts free of imperfection	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
FU5T-14A624-BC, 60013512C01C (Sealed C-Pol)														
1	(84.0)	---	0	999	84.06	84.00	83.97	83.99	84.04					
2	(45.4)	---	0	999	45.44	45.52	45.36	45.42	45.42					
3	(67.5)	---	0	999	67.51	67.49	67.53	67.50	67.52					
4	(66.1)	---	0	999	66.10	66.10	66.09	66.09	66.10					
5	(3.7)	---	0	999	3.49	3.51	3.55	3.52	3.55					
6	(35.5)	---	0	999	34.85	34.93	34.90	34.95	37.86					
7	Material ID Note	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
8	R0.3 Max	---	0.00	0.30	0.30	0.30	0.30	0.30	0.30					
9	R0.5	0.3	0.2	0.8	0.50	0.50	0.50	0.50	0.50					
10	Parts free of imperfection	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					

# Dimensional Layout Inspection Report

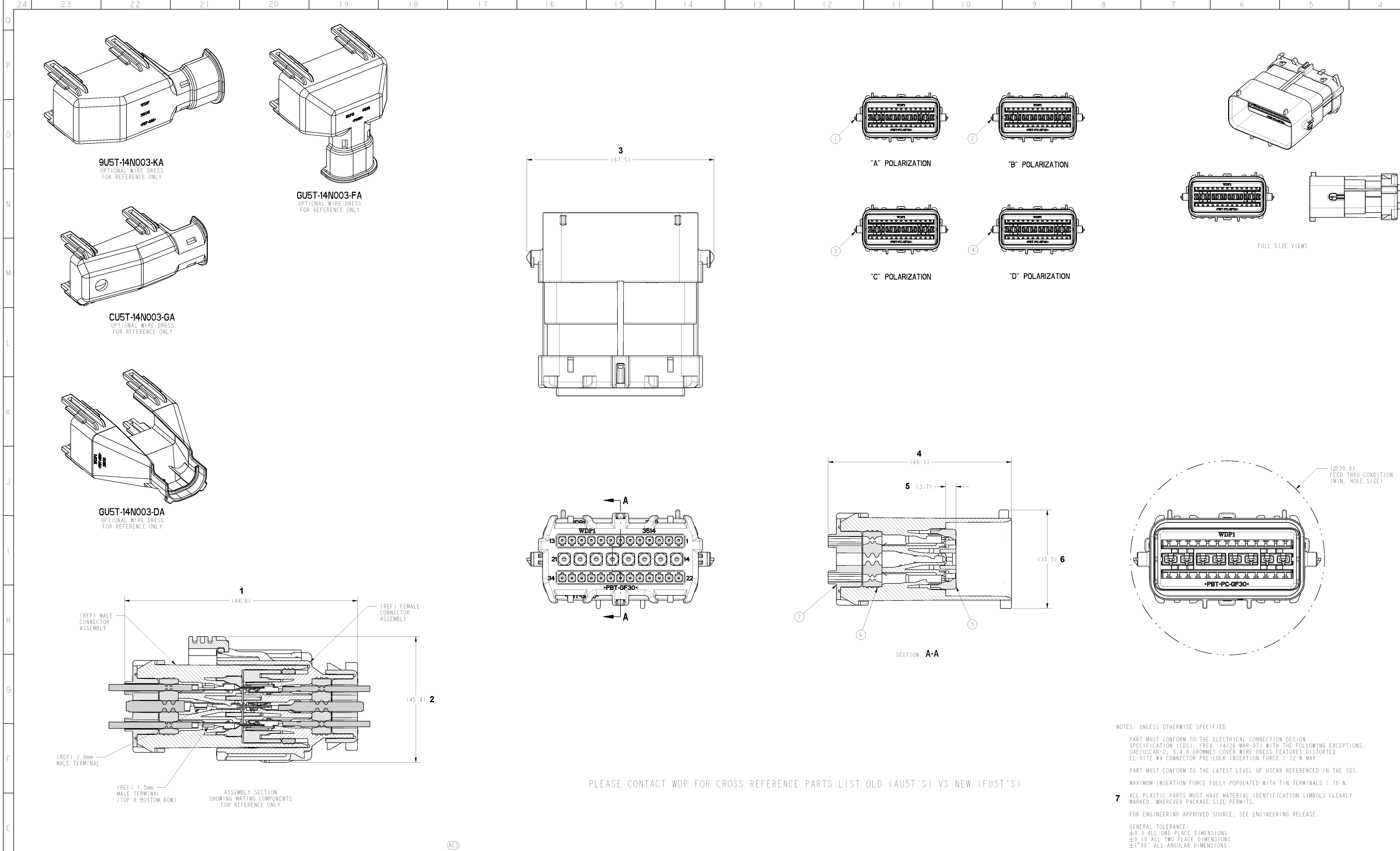
W-No. **W-3512**  
 Part No. **See below**  
 Part Name **34-Way Male Hybrid Assembly**

Run Date **01/18/18**  
 Print No. **FU5T-14A624-CC**  
 Revision / Date **BE3 (AELE-E-12035198-459) 6/5/18**

Material **PBT-GF30**  
 Insp. Date **06/07/18**  
 Insp. By **PB/SD**

					Sample Number									
Dim.	Specification	Tol. ±	Lo Lim	Hi Lim	1	2	3	4	5					
HU5T-14A624-AB, 60013512D01B (Sealed D-Pol)														
1	(84.0)	---	0	999	84.02	84.00	84.05	83.96	83.99					
2	(45.4)	---	0	999	45.54	45.52	45.56	45.51	45.53					
3	(67.5)	---	0	999	67.53	67.50	67.57	67.51	67.53					
4	(66.1)	---	0	999	66.18	66.15	66.19	66.20	66.17					
5	(3.7)	---	0	999	3.51	3.53	3.49	3.52	3.53					
6	(35.5)	---	0	999	34.80	34.83	34.79	34.85	34.81					
7	Material ID Note	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
8	R0.3 Max	---	0.00	0.30	0.30	0.30	0.30	0.30	0.30					
9	R0.5	0.3	0.2	0.8	0.50	0.50	0.50	0.50	0.50					
10	Parts free of imperfection	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
AU5T-14A459-AD, 60023512A01D (Unsealed A-Pol)														
1	(84.0)	---	0	999	84.02	84.05	84.02	84.02	84.00					
2	(45.4)	---	0	999	45.47	45.51	45.49	45.51	45.48					
3	(67.5)	---	0	999	67.51	67.53	67.50	67.51	67.54					
4	(66.1)	---	0	999	66.20	66.19	66.25	66.20	66.15					
5	(3.7)	---	0	999	3.53	3.50	3.54	3.50	3.51					
6	(35.5)	---	0	999	34.85	34.89	34.85	34.84	34.83					
7	Material ID Note	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
8	R0.3 Max	---	0.00	0.30	0.30	0.30	0.30	0.30	0.30					
9	R0.5	0.3	0.2	0.8	0.50	0.50	0.50	0.50	0.50					
10	Parts free of imperfection	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
AU5T-14A459-BD, 60023512B01D (Unsealed B-Pol)														
1	(84.0)	---	0	999	84.00	84.05	84.01	83.95	84.01					
2	(45.4)	---	0	999	45.53	45.50	45.55	45.51	45.47					
3	(67.5)	---	0	999	67.51	67.55	67.51	67.50	67.55					
4	(66.1)	---	0	999	66.20	66.18	66.22	66.15	66.18					
5	(3.7)	---	0	999	3.51	3.50	3.54	3.55	3.51					
6	(35.5)	---	0	999	34.85	34.89	34.85	34.82	34.81					
7	Material ID Note	---	0	999	Conforms	Conforms	Conforms	Conforms	Conforms					
8	R0.3 Max	---	0.00	0.30	0.30	0.30	0.30	0.30	0.30					
9	R0.5	0.3	0.2	0.8	0.50	0.50	0.50	0.50	0.50					





PLEASE CONTACT WDP FOR CROSS REFERENCE PARTS LIST OLD (AUST'S) VS NEW (FUST'S)

- NOTES: UNLESS OTHERWISE SPECIFIED
- PART MUST CONFORM TO THE ELECTRICAL CONNECTION DESIGN SPECIFICATION (CDS), (REV. 14/26-MAR-07) WITH THE FOLLOWING EXCEPTIONS: SAE/USCAR-2, 5-4-8 GROMMET COVER WIRE DRESS FEATURES DISTORTED EL-0172 #4 CONNECTOR PRE-LOCK INSERTION FORCE = 72 N MAX.
- PART MUST CONFORM TO THE LATEST LEVEL OF USCAR REFERENCED IN THE SDS.
- MAXIMUM INSERTION FORCE FULLY POPULATED WITH TIN TERMINALS = 70 N.
- 7 ALL PLASTIC PARTS MUST HAVE MATERIAL IDENTIFICATION SYMBOLS CLEARLY MARKED, WHEREVER PACKAGE SIZE PERMITS.
- FOR ENGINEERING APPROVED SOURCE, SEE ENGINEERING RELEASE.
- GENERAL TOLERANCE:  
±0.3 ALL ONE PLACE DIMENSIONS  
±0.10 ALL TWO PLACE DIMENSIONS  
±1°00" ALL ANGULAR DIMENSIONS
- FEED THROUGH CONDITION (I.E. MIN HOLE SIZE) TO GIVE 2MM TOTAL CLEARANCE ACROSS THE MAXIMUM DIAMETER.
- 8 0.3mm MAXIMUM RADIUS PERMISSIBLE ON EDGES SHOWN AS SHARP FOR PLASTIC PARTS.
- 9 ALL RADIUS R0.5.
- 10 PARTS ARE TO BE FREE OF SCRATCHES, DISCOLORATION, SALT RESIDUE OR OTHER IMPERFECTIONS THAT MAY AFFECT FUNCTION OR FIT OF PART.
- DRAWING CONFORMS TO AVP-(T404/T406)-001 REVISION C DATED 8-8-03.



REFERENCE - APPLICABLE COMPONENTS

DESCRIPTION	FORD COMPONENT PART NUMBER	SUPPLIER	SUPPLIER COMPONENT PART NUMBER	MATERIAL / SPECIFICATION	APPLICABLE WIRE SIZES	FINISHED WIRE DIAMETER	FORD COMPONENT MATING PART NUMBER	SUPPLIER COMPONENT MATING PART NUMBER
TERMINAL - MALE (Sa) - 2.8mm	BU5T-14421-BA	DELPHI	10762774	COPPER ALLOY / TIN PLATE	10 - 12 AWG 3.0 - 4.0 mm	1.90 - 4.20	XF2T-14474-BA 7LT7-14474-EA	10762802 15422738
TERMINAL - MALE (Sa) - 2.8mm	BU5T-14421-CA	DELPHI	10757692	COPPER ALLOY / TIN PLATE	14 - 16 AWG 1.5 - 2.5 mm		F8VB-14474-AA	10762803
TERMINAL - MALE (Sa) - 2.8mm	BU5T-14421-DA	DELPHI	10762775	COPPER ALLOY / TIN PLATE	18 AWG 1.0 mm		F8VB-14474-BA	10757690
TERMINAL - MALE (Sa) - 1.5mm	2L1T-14421-CA	MOLEX	33000-1002	COPPER ALLOY / TIN PLATE	16 AWG 1.0 mm	1.40 - 2.34	7C3T-14474-EA	33012-3001
TERMINAL - MALE (Sa) - 1.5mm	2L1T-14421-BA	MOLEX	33000-1003	COPPER ALLOY / TIN PLATE	22 AWG 0.5 mm		7C3T-14474-CA	33012-3003
TERMINAL - MALE (Sa) - 1.5mm	BU5T-14421-HA	MOLEX	34781-1004	COPPER ALLOY / TIN PLATE	0.35 mm	1.20 - 1.40	BU5T-14474-UA	34780-1004
TERMINAL - MALE (Au) - 1.5mm	2L1T-14421-FA	MOLEX	33011-0004	COPPER ALLOY / GOLD PLATE	16 AWG 1.0 mm	1.40 - 2.34	7C3T-14474-HA	33001-3003
TERMINAL - MALE (Au) - 1.5mm	2L1T-14421-EA	MOLEX	33011-0006	COPPER ALLOY / GOLD PLATE	22 AWG 0.5 mm		7C3T-14474-FA	33001-3005
TERMINAL - MALE (Ag) - 1.5mm	7U5T-14421-BA	MOLEX	33011-3002	COPPER ALLOY / SILVER PLATE	16 AWG 1.0 mm	1.40 - 2.34	7C3T-14474-UA	33001-5001
TERMINAL - MALE (Ag) - 1.5mm	7U5T-14421-AA	MOLEX	33011-3001	COPPER ALLOY / SILVER PLATE	22 AWG 0.5 mm		7C3T-14474-TA	33001-5002
TERMINAL - MALE (Ag) - 1.5mm	7U5T-14421-SA	MOLEX	33011-5003	COPPER ALLOY / SILVER PLATE	22 AWG 0.5 mm		7C3T-14474-SA	33001-5003
WIRE DRESS (LEFT OR RIGHT ROUTE)	9U5T-14N003-KA	WDP	3605-02-001	>PBT+ABS<	N/A	N/A	N/A	N/A
WIRE DRESS (LEFT OR RIGHT ROUTE)	CU5T-14N003-GA	WDP	4018-02-001	>PBT+ABS<	N/A	N/A	N/A	N/A
WIRE DRESS (STRAIGHT ROUTE)	GU5T-14N003-DA	WDP	3806-02-001	>PBT+ABS<	N/A	N/A	N/A	N/A
WIRE DRESS (UP OR DOWN ROUTE)	GU5T-14N003-FA	WDP	4836-02-001	>PBT+ABS<	N/A	N/A	N/A	N/A

TEMPERATURE RANGE -40°C TO 125°C (CLASS #3)						FORD ASSEMBLY NUMBER				WDP ASSEMBLY NUMBER				FORD MATING COMPONENT				WDP MATING COMPONENT			
ITEM	DESCRIPTION	COLOR	WDP COMPONENT PART NUMBER	MATERIAL I.D. SYMBOL	NUMBER OF ITEMS REQUIRED	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	HOUSING (A POL.)	BLACK	3512A-00-001	>PBT-GF30<	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	HOUSING (B POL.)	GRAY	3512B-00-001	>PBT-GF30<	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	HOUSING (C POL.)	BROWN	3512C-00-001	>PBT-GF30<	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	HOUSING (D POL.)	GREEN	3512D-00-001	>PBT-GF30<	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	SPACER	NATURAL	3513-00-002	>PBT+PC-GF30<	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	GROMMET	RED	3512-51-002	>VMO<	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	GROMMET COVER	GRAY	3514B-00-001	>PBT-GF30<	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

UNSEALED	B	60023512B01D	AU5T-14A459-BD
UNSEALED	A	60023512A01D	AU5T-14A459-AD
SEALED	D	60013512D01B	HU5T-14A624-AB
SEALED	C	60013512C01C	FU5T-14A624-BC
SEALED	B	60013512B01C	FU5T-14A624-DB
SEALED	A	60013512A01C	FU5T-14A624-CC
SEALING	POLARIZATION	WDP ASSEMBLY NO.	FORD ASSEMBLY NO.

**WDP** Western Diversified Plastics Phone: (269) 668-3393

REFERENCE

PART MUST COMPLY WITH RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS-M99P9999-A1 TO SAFEGUARD HEALTH, SAFETY AND THE ENVIRONMENT

DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 28.1

CAD TYPE X-PROE CAD LOC TCE CAD FILE IS MASTER

OPER. NO. UNIT DRAWING FU5T-14A624-CC

DESIGN FINSTROM DETAIL FINSTROM TITLE SLV ASY WIR CONN MLE SHT 1 OF 8

CHECKED ENSING SAFETY

SCALE DATE DIVISION 2:1 20130114 PLANT

FORD MOTOR COMPANY

Layout Rev Level

Note: Print revisions after current layout were part number related. Does not effect dimensional data.

Note: This print shows the location of the ballooned dimensions.







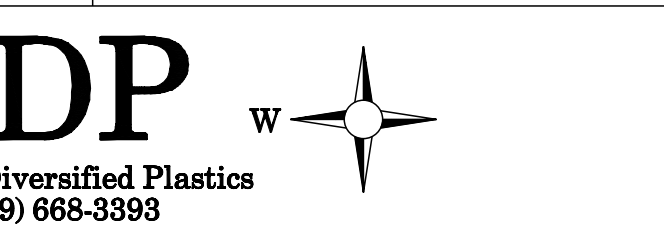


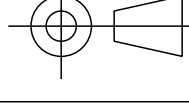







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IN ACCORDANCE WITH FORD MOTOR ENGINEERING-K1 CAD AND DRAFTING S VERSION 28_L		 3RD ANGLE PROJ DIMENSIONS ARE IN MILLIMETERS	
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DATE	DIVISION		
20130114	PLANT		
 FORD MOTOR COMPANY			







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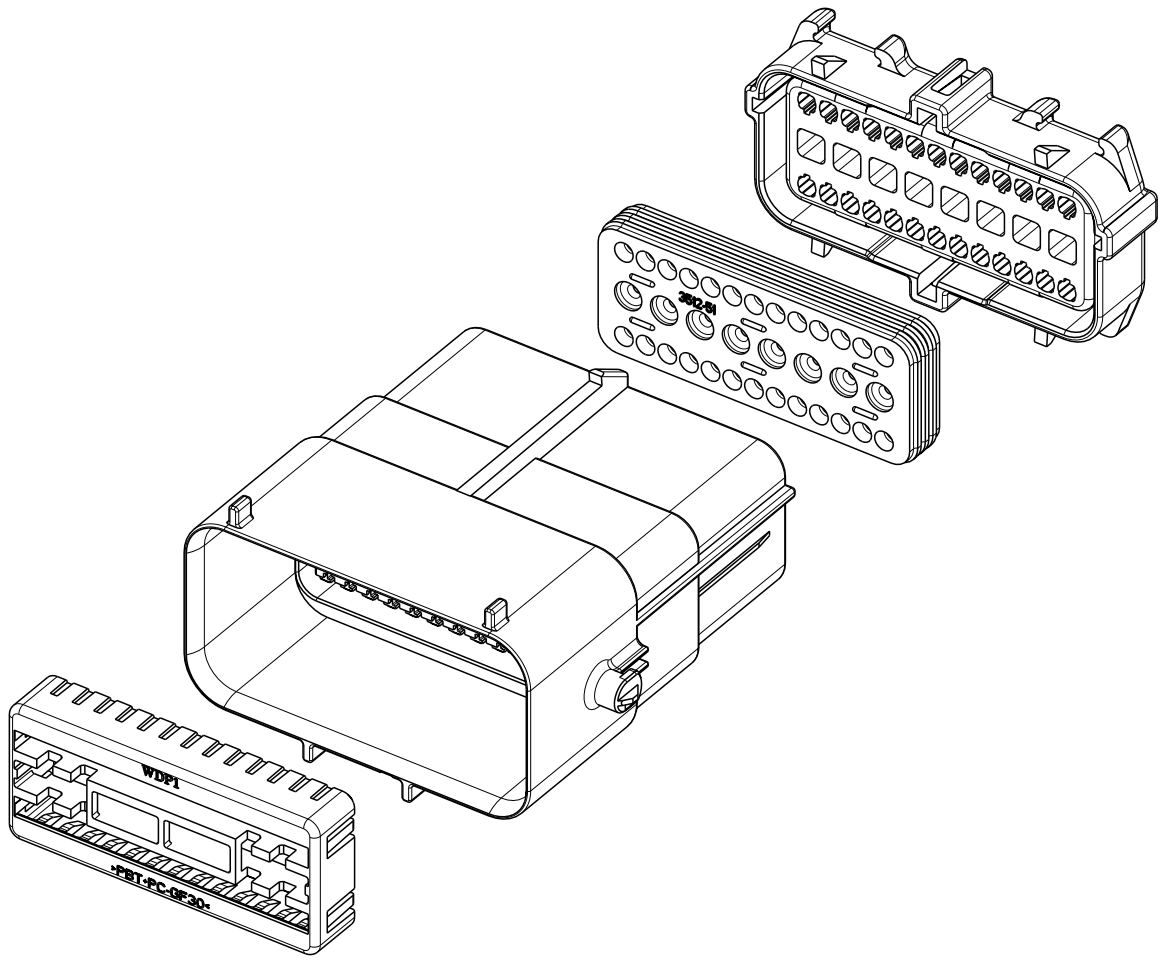




Q	24	23	22		21		20		19		18		17		16		15		14		13		12		11		10		9		8		7		6		5		4		3		2		1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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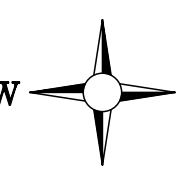
By Mike Davidson at 1:28 pm, Jan 15, 2019



WDP

Western Diversified Plastics

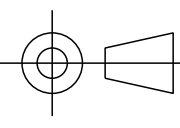
Phone: (269) 668-3393



REFERENCE

PART MUST COMPLY WITH RESTRICTED SUBSTANCE MANAGEMENT STANDARD WSS-M99P9999-A1 TO SAFEGUARD HEALTH, SAFETY AND THE ENVIRONMENT

DRAFTED IN ACCORDANCE WITH FORD MOTOR COMPANY ENGINEERING CAD AND DRAFTING STANDARDS VERSION 28.L

3RD ANGLE PROJ  
DIMENSIONS ARE IN MILLIMETERS

CAD TYPE  
X-PROE

CAD LOC.  
TCE

CAD FILE

DTMC  
IS MASTER

OPER. NO.

UNIT

DRAWING  
FU5T-14A624-CC

DESIGN  
FINSTROM

DETAIL  
FINSTROM

TITLE  
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CHECKED  
ENSING

SAFETY

SCALE  
1:1

DATE  
20130114

DIVISION  
PLANT

FORD MOTOR COMPANY

# Polyram Plastic Industries LTD

Moshav Ram On

M.P Gilboa 1920500

Israel

Tel.: 972-4-6599900, Fax: 972-4-6499763

Company Number: 515251593

VAT Number: 515251593

Withheld Tax File: 902248582



URL: <http://www.polyram-group.com>

E-mail: [mail@polyram-group.com](mailto:mail@polyram-group.com)

## Certificate of Analysis

**Grade Name:** RAMSTER 620 BLK  
**Customer PN#:** MAT-089-BLK  
**Description:** PBT I GF30 HR BLACK  
**LOT Number:** 18120115  
**LOT Date:** 12/12/18  
**Color:** BLACK 401  
**Customer:** WESTERN DIVERSIFIED PLASTICS  
**Polyram Name:** RAMSTER PF312G6BK401

Properties	Test Method	Units	Designated Min	Designated Max	AVG RESULTS
HDT 1.8MPa	ISO-75	°C	200.0000	---	205.4500
Determination of ASH	ISO 3451-1	%	28.0000	32.0000	29.6200
SPIRAL FLOW	INTERNAL	in	35.0000	42.0000	37.8750
MFI (250/2.16kg)	ISO 1133	g/10min	12.0000	28.0000	18.1000
TENSILE STRENGTH	ISO 527-2/1A	MPa	115.0000	---	135.0000
TENSILE MODULUS	ISO 527-2/1A	MPa	7,500.0000	---	9,278.0000
NOTCHED CHARPY IMPACT	ISO179-1/1eA	kJ/m <sup>2</sup>	7.0000	---	10.1800

### Grade Remarks

This lot meets the mechanical requirements of FCA MS50103 CPN 4615 and Ford WSK-M4D725-B1 specification

No. 86 Version A

The test values reported are means of individual test values determined on samples taken in accordance with the testing plan of the day of production.  
Thank you for deciding on Polyram product.

Yaara Avrahami  
Quality Manager  
Polyram Plastic Industries LTD

# Polyram Plastic Industries LTD

Moshav Ram On

M.P Gilboa 1920500

Israel

Tel.: 972-4-6599900, Fax: 972-4-6499763

Company Number: 515251593

VAT Number: 515251593

Withheld Tax File: 902248582



URL: <http://www.polyram-group.com>

E-mail: [mail@polyram-group.com](mailto:mail@polyram-group.com)

## Certificate of Analysis

**Grade Name:** RAMSTER 620 GRAY  
**Customer PN#:** MAT-089-GRY  
**Description:** PBT I GF30 HR GREY  
**LOT Number:** 18070686  
**LOT Date:** 29/08/18  
**Color:** GREY 402  
**Customer:** WESTERN DIVERSIFIED PLASTICS  
**Polyram Name:** RAMSTER PF312G6GR402

Properties	Test Method	Units	Designated Min	Designated Max	AVG RESULTS
HDT 1.8MPa	ISO-75	°C	200.0000	---	203.0000
Determination of ASH	ISO 3451-1	%	28.0000	32.0000	29.4000
SPIRAL FLOW	INTERNAL	in	35.0000	42.0000	38.6250
MFI (250/2.16kg)	ISO 1133	g/10min	12.0000	28.0000	23.0500
TENSILE STRENGTH	ISO 527-2/1A	MPa	115.0000	---	126.0000
TENSILE MODULUS	ISO 527-2/1A	MPa	7,500.0000	---	9,495.0000
NOTCHED CHARPY IMPACT	ISO179-1/1eA	kJ/m²	7.0000	---	7.8750

### Grade Remarks

**This lot meets the mechanical requirements of FCA MS50103 CPN 4615 and Ford WSK-M4D725-B1 specification**

No. 86 Version A

The test values reported are means of individual test values determined on samples taken in accordance with the testing plan of the day of production.  
Thank you for deciding on Polyram product.

**Yaara Avrahami**  
**Quality Manager**  
**Polyram Plastic Industries LTD**





# Certificate of Registration

This certificate has been awarded to

**Polyram Plastic Industries Ltd**

Ram-On, 1920500, Israel

In recognition of the organization's Quality Management System which complies with

**IATF 16949:2016**

The scope of activities covered by this certificate is defined below

**Design and Manufacture of Thermoplastic Raw Material Compounds**

Certificate Number:

61487/B/0001/SM/En

Date of Issue of Certification Cycle:

04 July 2017

Date of Issue:

06 July 2017

Issue No:

3

Expiry Date:

03 July 2020

IATF No:

0268648

Issued by:

On behalf of the Schemes Manager



# Certificate of Analysis

## Certificate Type:

Insp. certificate "3.1" EN

10204

Date printed: JAN/16/2019



WESTERN DIVERSIFIED PLASTICS  
53150 NORTH MAIN STREET  
Michigan  
49071  
MATTAWAN  
USA

**Shipped from details:**  
SABIC INNOVATIVE PLASTICS US LLC  
1 LEXAN LN  
47620-0000  
MT. VERNON  
USA

Material Number	22017602
Material Description	508-1001-OCT-00-00-00
Material Group	VALOX™ resin
Batch Number	0009682756
Manufacturing Plant	Mt. Vernon
Manufacturing Date	DEC/28/2018
Sales Order	2670758
Delivery	800738783
Customer PO Number	18921
Customer Material Number	MAT-003-NAT-VIR

Characteristic	Unit	Value	Lower Limit	Upper Limit	Inspection method
<b>ARC RESISTANCE</b>	<b>s</b>	<b>100.000</b>	<b>100.0</b>		<b>ASTM D495</b>
<b>DENSITY</b>	<b>g/cm3</b>	<b>1.47790</b>	<b>1.470</b>	<b>1.530</b>	<b>ISO 1183</b>
<b>DIELECTRIC STRENGTH 3.2MMDISK</b>	<b>V</b>	<b>480.000</b>	<b>457.00</b>		<b>ASTM D149</b>
<b>FLEXURAL MODULUS, 4.0MM</b>	<b>lb / in2</b>	<b>1298040</b>	<b>841000.</b>		<b>ISO 178</b>
<b>WATER ABS IMMERSION 23°C 24HR</b>	<b>%</b>	<b>0.09000</b>		<b>0.1</b>	<b>ASTM D570</b>
<b>HDT FW 1.80MPA 4.0MM</b>	<b>°C</b>	<b>172.000</b>	<b>145.0</b>	<b>192.0</b>	<b>ISO 75-1,2</b>
<b>IZOD IMPACT NOT 4.0MM -40°C</b>	<b>kJ/m2</b>	<b>9.75000</b>	<b>3.4</b>		<b>ISO 180</b>
<b>IZOD IMPACT NOT 4.0MM 23°C</b>	<b>kJ/m2</b>	<b>9.90000</b>	<b>4.4</b>		<b>ISO 180</b>
<b>IZOD IMPACT NOTCH 23°C, 3.2MM</b>	<b>ftlb/in</b>	<b>1.81000</b>	<b>1.3</b>		<b>ASTM D256</b>
<b>GLASS CONTENT</b>	<b>%</b>	<b>29.4</b>	<b>28.0</b>	<b>32.0</b>	<b>ASTM D5630</b>
<b>MVR 250°C @2.16KG</b>	<b>CC/10'</b>	<b>8.0</b>	<b>6.0</b>	<b>9.7</b>	<b>ISO 1133</b>
<b>TENSILE MODULUS</b>	<b>MPa</b>	<b>9456.00</b>	<b>8154.0</b>	<b>10885.0</b>	<b>ISO 527</b>
<b>TENSILE STRENGTH @BREAK</b>	<b>MPa</b>	<b>136.000</b>	<b>95.0</b>	<b>145.0</b>	<b>ISO 527</b>

# Certificate of Analysis

**Certificate Type:**

Insp. certificate "3.1" EN

10204

**Date printed:** JAN/16/2019

WESTERN DIVERSIFIED PLASTICS  
53150 NORTH MAIN STREET  
Michigan  
49071  
MATTAWAN  
USA

**Shipped from details:**

SABIC INNOVATIVE PLASTICS US LLC  
1 LEXAN LN  
47620-0000  
MT. VERNON  
USA

**CHARPY NOTCH 23°C*****kJ/m2******11.7200******10.1******ISO 179*****The results in bold/italics are audit tests, latest done on 03/01/2018.****General Note : This document is computer generated and does not require a signature****Contact information can be found on [www.SABIC.com](http://www.SABIC.com).**

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SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

SABIC INNOVATIVE PLASTICS MT VERNON, LLC<sup>1</sup>  
MC & AT  
1 Lexan Lane, Building 1  
Mount Vernon, IN 47620  
Kim Bailey Phone: (812) 831-5213

MECHANICAL

Valid To: July 31, 2019

Certificate Number: 0956.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory at the location listed above as well as the one (1) satellite laboratory location listed below to perform the following tests on plastics:

**Test Method(s):**

**Test Name:**

ASTM D256; ISO 180

Pendulum Impact Resistance (Notched Izod)

ASTM D618

Conditioning of Plastic Specimens

ASTM D638; ISO 527-1, 2

Tensile Properties

ASTM D648; ISO 75-1, 2

Deflection Temperature Under Flexural Load

ASTM D790; ISO 178

Flexural Properties

ASTM D792; ISO 1183-1 (Method A)

Density and Specific Gravity (Relative Density) by Displacement

ASTM D1238; ISO 1133

Flow Rates of Thermoplastics by Extrusion Plastometer

ASTM D1525; ISO 306

Vicat Softening Temperature

ASTM D3418; ISO 11357-1, 2, 3

Transition Temperatures of Polymers by Thermal Analysis

ASTM D3763

High-Speed Puncture Properties

ASTM D5630 (Procedure B)

Ash Content

ASTM E168

Practice for General Techniques of Infrared Quantitative Analysis

(A2LA Cert. No. 0956.01) 08/28/2017

Page 1 of 2



□

**Test Method(s):**

ASTM E831; ISO 11359-1, 2

ISO 179-1

ISO 3795

ISO 11358-1

**Test Name:**

Linear Thermal Expansion by TMA

Charpy Impact

Flammability

Thermogravimetry (TG) of Polymers

*<sup>1</sup>This accreditation covers testing performed at the main laboratory listed above, and the following satellite laboratory listed below:*

SABIC INNOVATIVE PLASTICS LLC

Ultem QA Lab

1 Lexan Lane, Building 62

Mount Vernon, IN 47620-9367

Kim Bailey Phone: (812) 831-4714

**Test Method(s):**

ASTM D256

ASTM D618

ASTM D638

ASTM D648

ASTM D790

ASTM D792

ASTM D1238

ASTM D5630 (Procedure B)

**Test Name:**

Pendulum Impact Resistance (Notched Izod)

Conditioning of Plastic Specimens

Tensile Properties

Deflection Temperature Under Flexural Load

Flexural Properties

Density and Specific Gravity (Relative Density) by Displacement

Flow Rates of Thermoplastics by Extrusion Plastometer

Ash Content





## *Accredited Laboratory*

A2LA has accredited

**SABIC INNOVATIVE PLASTICS MT VERNON, LLC**

*Mount Vernon, IN*

for technical competence in the field of

**Mechanical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).



Presented this 28<sup>th</sup> day of August 2017.

A handwritten signature in black ink, appearing to read 'L. Sen', written over a horizontal line.

President and CEO  
For the Accreditation Council  
Certificate Number 0956.01  
Valid to July 31, 2019

*For the tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.*



By Royal Charter

# Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

SABIC Innovative Plastics US LLC  
3531 Port and Harbor Drive  
Bay St. Louis  
Mississippi  
39520  
USA

Holds Certificate No:

**FM 94182**

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

The manufacture and distribution of engineered thermoplastic resins, including ABS resins, San copolymers, cyclooy, polypropylene compounds, and Stamax® and other similar product families.

For and on behalf of BSI:

Carlos Pitanga, SVP, System Certification and Compliance

Original Registration Date: 2005-05-17

Latest Revision Date: 2018-04-18

Effective Date: 2017-05-16

Expiry Date: 2020-05-15

Page: 1 of 1



...making excellence a habit.™

This certificate remains the property of BSI and shall be returned immediately upon request.

An electronic certificate can be authenticated [online](http://www.bsigroup.com/ClientDirectory). Printed copies can be validated at [www.bsigroup.com/ClientDirectory](http://www.bsigroup.com/ClientDirectory). To be read in conjunction with the scope above or the attached appendix.

Information and Contact: BSI, Kitemark Court, Davy Avenue, Knowlhill, Milton Keynes MK5 8PP. Tel: + 44 345 080 9000  
BSI Assurance UK Limited, registered in England under number 7805321 at 389 Chiswick High Road, London W4 4AL, UK.  
A Member of the BSI Group of Companies.




**FOREST CITY**  
**TECHNOLOGIES, INC.**  
 INNOVATION BY DESIGN

Print Rev.: A2



MATERIAL: SELF LUBRICATED SILICONE  
 ORIGINAL PROPERTIES, ASTM D2240-91, D412-92  
 HARDNESS, SHORE A = 13-22  
 TENSILE STRENGTH, DIE-C, MPa = 2.0 MIN.  
 ELONGATION, % = 500 MIN.  
 TEAR STRENGTH, DIE-C, KN/m = 3.0 MIN.  
 HEAT AGING, ASTM D-573-88, 168h @ 150°C  
 HARDNESS CHANGE, p.s. = -5 TO +10  
 TENSILE STRENGTH CHANGE, % = -30 MAX.  
 ELONGATION CHANGE, % = -30 MAX.  
 COMPRESSION SET, ASTM D-395-89, METHOD B, 70h & 150°C  
 SET, % = 25 MAX.  
 FLUID RESISTANCE, ASTM D-471-95, 70h @ 150°C ASTM #1 OIL  
 HARDNESS CHANGE, p.s. = 0 TO -12  
 TENSILE STRENGTH CHANGE, % = -30 MAX.  
 ELONGATION CHANGE, % = -30 MAX.  
 VOLUME CHANGE, % = 0 TO +15  
 COLOR: RED

DaimlerChrysler Ford General Motors

SUPPLIER		PART NUMBER					
FOREST CITY TECHNOLOGIES		3512-51-002					
NAME OF LABORATORY		PART NAME					
FOREST CITY TECHNOLOGIES		Grommet - 34 Way Male Hybird					
Test	MATERIAL SPECIFICATION Print Callout	FCMS 848			UOM	OK	NOT OK
		SPEC MIN.	SPEC MAX.	TEST RESULTS			
DUROMETER ASTM-D2240, SHORE A		13	22	18	points		
TENSILE ASTM-D412		2		3	MPa		
ULTIMATE ELONGATION ASTM-D412, DIE C		500		916	%		
TEAR STRENGTH DIE C		3		10.5	KN/m		
HEAT AGED ASTM D 537-04(15) 70HRS. @ 302°F ASTM D-573-88, 168h @ 150°C							
	TENSILE	-30		0.5	%		
	ELONGATION	-30		3.0	%		
	HARDNESS	-5	10	1	%		
COMPRESSION SET ASTM-D395, 70 hrs @ 150°C		0	25	19.0	%		
FLUID RESISTANCE ASTM D 471-16, 70HRS @ 302°F in IRM 901 oil ASTM D-471-95, 70HRS @ 150°C ASTM #1 Oil							
	HARDNESS	-12		-3	points		
	TENSILE	-30		-9.7	%		
	ELONGATION	-30		-7.2	%		
	CHANGE IN VOLUME	0	15	4.8	%		
COLOR		RED		Pass			
LUBRICANT BLEED		Evident Within 24 Hours		Pass			
IMDS # 393572567		Signature			Date		
					7/24/2018		
		Reported by/Tilte: Nick Wilson, Quality Engineer					



**SMITHERS**  
QUALITY ASSESSMENTS

## CERTIFICATE OF APPROVAL

This is to Certify that the Quality Management System of:

**Forest City Technologies, Inc.**

**299 Clay Street**

**Wellington, OH 44090**

(Page 1 of 2; see Appendix)

has been assessed and approved by Smithers Quality Assessments, Inc., to  
the following quality management system standards and requirements:

### **ISO 9001:2015 without Design**

The Quality Management System is Applicable to:

The manufacture of sealing devices and molded products and the application of  
sealants, coatings tapes and related services to both such as sorting/packing, and  
delivery for the fastener, automotive, infant care and other industries

Approval

Certificate Number: 97.127.1

Original Approval: May 7, 1997

Current Certificate: April 24, 2018

Certificate Expires: April 23, 2021



*The use of the accreditation mark indicates  
accreditation in respect of those activities  
covered by the above certificate number.*

  
on behalf of SQA - J. Michael Hochschwender, CEO

The approval is subject to the company maintaining its system to the required standards which will be monitored by  
Smithers Quality Assessments, Inc., 121 S. Main St. Suite 300, Akron, Ohio 44308, USA



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**APPENDIX A  
TO THE CERTIFICATE  
OF REGISTRATION NO. 97.127.1**

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*Page 2 of 2*

**SMITHERS QUALITY ASSESSMENTS, INC.**

**Forest City Technologies, Inc.**

299 Clay Street  
Wellington, OH 44090

is certified by Smithers Quality Assessments, Inc. with regard to ISO 9001:2015 without design

In addition to the corporate office in Wellington, OH, the following sites have been assessed and found to be in compliance with the applicable requirements of ISO 9001:2015 without design utilizing a multi-site sampling approach.

**Locations:**

232 Maple Street  
Wellington, OH 44090

Scope of services for this site: Manufacturing

**Forest City Technologies**

892 Southbrook Drive  
Rockford, IL 61102

Scope of services for this site: Manufacturing

**Forest City Technologies**

401 Magyar Street  
Wellington, OH 44090

Scope of services for this site: Manufacturing

**Forest City Technologies**

22069 Fairgrounds Roads  
Wellington, OH 44090

Scope of services for this site: Manufacturing

**Forest City Technologies - Novathane**

228 TWP RD 931  
Nova, OH 44859

Scope of service for theis site: Manufacturing

*This appendix applies only to those sites listed above. As other sites are assessed and approved, or as sites already approved are removed from active services, this appendix will be amended to show the current status. Sites not listed on this appendix shall not be viewed as approved.*



# CERTIFICATE OF REGISTRATION

This is to certify that the management system of:

## Western Diversified Plastics, LLC

53150 North Main Street, Mattawan, MI, 49071, USA

has been registered by Intertek as conforming to the requirements of:

### IATF 16949:2016

The management system is applicable to:

Design and Manufacture of Plastic Components and Assemblies

Permissible exclusions include: None

**IATF Certificate Number**  
0312892

**Certificate Number:**  
2007-0124

**Certificate Issue Date:**  
28 June 2018

**Certificate Expiry Date:**  
27 June 2021



**Calin Moldoveanu**  
President, Business Assurance

Intertek - 4700 Broadmoor, Suite 200  
Kentwood MI 49512, USA





# APPENDIX TO CERTIFICATE OF REGISTRATION

This is to certify that the quality management system of:

## Western Diversified Plastics, LLC

53150 North Main Street, Mattawan, MI, 49071, USA

has been registered by Intertek as conforming to the requirements of:

## IATF 16949:2016

Including the Following Support Functions:

53196 N. Main Street,  
Mattawan, MI, 49071, USA

After-Sales, Calibration,  
Contract Review, Laboratory,  
Process Design, Product  
Design, Sales

**IATF Certificate Number**  
0312892

**Certificate Number:**  
2007-0124

**Certificate Issue Date:**  
28 June 2018

**Certificate Expiry Date:**  
27 June 2021



**Calin Moldovean**  
President, Business Assurance

Intertek – 4700 Broadmoor, Suite200  
Kentwood MI 49512, USA



# CERTIFICATE OF REGISTRATION

This is to certify that the management system of:

## Western Diversified Plastics, LLC

53150 North Main Street, Mattawan, MI, 49071, USA

has been registered by Intertek as conforming to the requirements of:

## ISO 9001:2015

The management system is applicable to:

Design and Manufacture of Plastic Components and Assemblies

**Certificate Number:**

06-058e-01

**Initial Certification Date:**

02 June 2006

**Date of Certification Decision:**

28 June 2018

**Issuing Date:**

28 June 2018

**Valid Until:**

27 June 2021



A handwritten signature in black ink, appearing to read "Calin Moldoveanu", written over a horizontal line.

**Calin Moldoveanu**

President Business Assurance

Intertek Testing Services NA, Inc. dba Intertek  
900 Chelmsford Street, Lowell, MA, USA



## INTERNAL TEST LAB SCOPE

Field of Test	Products or Items Tested	Specified Tests or Properties Measured	Specification, Standard, or Method Used	Equipment / Range
Mechanical	Electrical and Mechanical Components	Force - Tension & Compression	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2 WDP PS-001	Instron 3342 5 to 500N Instron 3366 5 to 10KN
Mechanical	Electrical and Mechanical Components	Torque	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS WDP PS-001	Jetco ED-2501 Stanley E23lb-16 Stanley E33LA18-46 .5 to 46 Nm
Mechanical	Electrical and Mechanical Components	Environmental Exposure – Temperature, Humidity Salt Fog Dust	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2, 20, 21 CETP 00.00L/E-412 WDP PS-001	Humboldt H30135E Thermotron SM-32& 4 Thermotron SE-600 Singleton SCCH 22 ESPEC EDC-27 Control Co 4040 Fluke 54 T/C Monitor -40C to 500C
Mechanical	Electrical and Mechanical Components	Environmental Exposure - Vibration – Sine, Random, Sine on Random, & Transient	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2 SAE/USCAR-20 WDP PS-001	Thermotron DSX-8000 Vib 5 to 3000 Hz, 8000 force lb 11ms 100g half sine shock 2.54 mps, 3" displacement Endevco 7251A Accel Dytran 3215 Accel ±500g max
Mechanical	Electrical and Mechanical Components	Environmental Exposure - Thermal Shock	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2, 20, 21 WDP PS-001	Thermotron ATS-320 Fluke 54 T/C Meter -60C to 175C
Mechanical	Electrical and Mechanical Components	Sealing Integrity	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2	Weiss DUGY2-015 ±15psi Fluke PV 350 transducer 29.9 in Hg to 350 psi ESPEC ETH-37 Water Test Chamber Up to 1500 psi - 4 gpm DURA 3000 psig gage Control Co 1042 Stopwatch - 1/100 <sup>th</sup> sec

Distribution List:	Quality Director, Test Lab Manager, Test Lab Technicians, Quality Engineering, Program Managers, Manufacturing Engineer		
TLI002 Internal Test Lab Scope	Page 1 of 2	Revision Date 5/22/18	
Printed Copies are for Reference Only			

Field of Test	Products or Items Tested	Specified Tests or Properties Measured	Specification, Standard, or Method Used	Equipment / Range
Temperature	Electrical Components	Thermal Imaging	ES-5L1T-14A067-AA ES-GU5T-14A067-AB WDP PS-001	FLIR T620 Up to 500°C
Sound	Mechanical Components	Sound Level Audible noise	Ford Connector SDS SAE/USCAR-2	Extech 407768 dB A&C scale to 140dB
AC Electrical	Electrical and Mechanical Components	Dielectric	ES-5L1T-14A067-AA ES-GU5T-14A067-AB WDP PS-001	Vitretek V63 100V to 5KV AC
Dimensional	Electrical and Mechanical Components	Distance / Length Height/Width	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2 SAE/USCAR-20	Mitutoyo 0- 6" Caliper GEI SS 1000mm ruler
DC Electrical	Electrical and Mechanical Components	Insulation Resistance Dielectric Resistance	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2 WDP PS-001	Vitretek V63 IR from 1 to 10Gohm Dielectric 100V to 6KV DC
DC Electrical	Electrical and Mechanical Components	Amperage	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2, 20, 21 WDP PS-001	Fluke 87, 287, 289 Extech 380941, 380947 .01 micro to 400A DC
DC Electrical	Electrical and Mechanical Components	Voltage	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2, 20, 21 WDP PS-001	Fluke 87, 287, 289 HP 44701A Rigol DS1104Z 1 micro to 1000 Volts DC
DC Electrical	Electrical and Mechanical Components	Resistance	ES-5L1T-14A067-AA ES-GU5T-14A067-AB Ford Connector SDS SAE/USCAR-2, 20, 21 WDP PS-001	Keithley 580 10micro to 200Kohm
Mechanical / DC Electrical	Electrical and Mechanical Components	Combined Environment Durability/Life Test	Various as Listed Above	Various as Listed Above

**1.1** WDP test lab performs testing relative to the internal scope using the Test Request, DVP&R, and the Test Specification.

**1.2** Capabilities may include tests related to the test technologies listed which utilize equipment and properties listed.

**1.3** Any required conditions, or deviations, are communicated to the customer as identified in the DVP&R and/or Test data sheet.

Distribution List:	Quality Director, Test Lab Manager, Test Lab Technicians, Quality Engineering, Program Managers, Manufacturing Engineer		
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