

DaimlerChrysler Ford GM

Part Submission Warrant

Part Name PP NW23 SW GRN.STR. CONT. Cust. Part Number ESXU5T-14A099-AA(BG25-05)
Shown on Drawing No. 19314903-FORD Org. Part Number 1931970
Engineering Change Level n Dated 05.05.2021
Additional Engineering Changes _____ Dated _____
Safety and/or Government Regulation ☐ Yes ☒ No Purchase Order No. : _____ Weight (kg) 0,0545
Checking Aid No. _____ Checking Aid Engineering Change Level _____ Dated _____

ORGANIZATION MANUFACTURING INFORMATION

Delfingen DE Haßfurt GmbH / 34-320-6862
Organization Name & Supplier/Vendor Code
Philipp-Reis-Straße 18
Street Address
Hassfurt 97437 Germany
City Region Postal Code Country

CUSTOMER SUBMITTAL INFORMATION

Nursan Kablo Donanımları San. ve Tic. A.Ş
Customer Name / Division
Nadiye BARUTÇU
Buyer / Buyer Code
Application

MATERIALS REPORTING:

Has customer-required Substances of Concern information been reported? ☒ Yes ☐ No ☐ n/a
Submitted by IMDS or other customer format: 559315946
Are polymeric parts identified with appropriate ISO marking codes? ☒ Yes ☐ No ☐ n/a

REASON FOR SUBMISSION (Check at least one)

☐ Initial submission
☐ Engineering Change(s)
☐ Tooling: Transfer, Replacement, Refurbishment, or additional
☐ Correction of Discrepancy
☐ Tooling inactive > than 1 year
☐ Change to Optional Construction or Material
☐ Supplier or Material Source Change
☐ Change in Part Processing
☐ Parts produced at Additional Location
☒ Other - please specify below
Requalification

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 supplier's manufacturing location.

SUBMISSION RESULTS

The results for ☒ dimensional measurements ☒ material and functional tests ☐ appearance criteria ☐ statistical process package
These results meet all design record requirements: ☒ Yes ☐ No (If 'NO' - Explanation Required)
Mold / Cavity / Production Process Extrusion

DECLARATION

I 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 4rd Edition Requirements. I further affirm that these samples were produced at the production rate of _____
I also certify that documented evidence of such compliance is on file and available for review. I have noted any deviations from this declaration below.

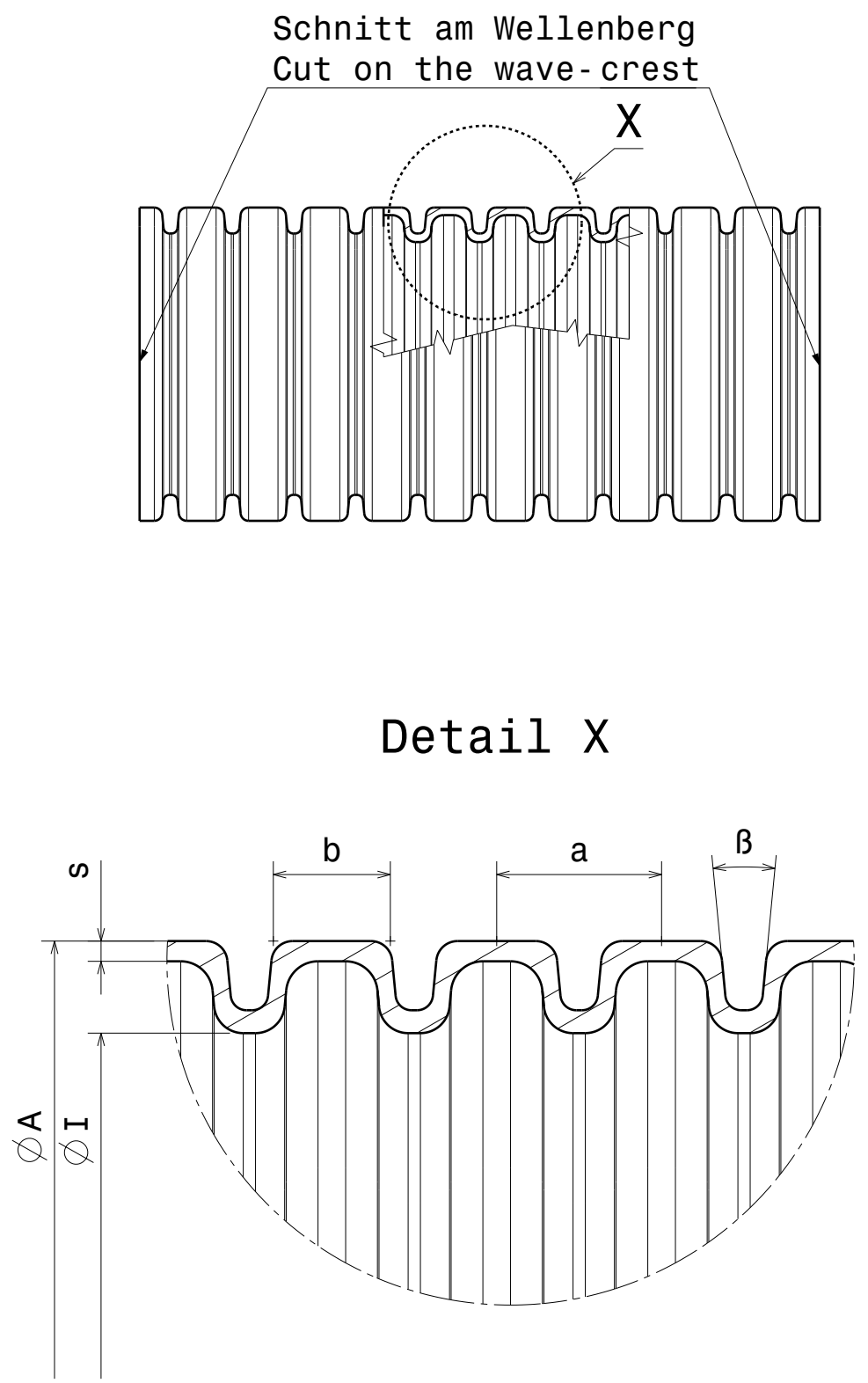
EXPLANATION / COMMENTS: Report-No.: H22-1556
(Formerly Schlemmer GmbH, Haßfurt 53-739-7536)

Is each Customer Tool properly tagged and numbered? ☐ Yes ☐ No ☒ n/a
Organization Authorized Signature Florian Hartmann Specialist Quality Engineering PPAP 19.09.2022
Print Name Florian Hartmann Phone No. +49 9521 9428-196 Fax no. -291
Titel Quality Engineering Hassfurt E-Mail fhartmann@delfingen.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

PPAP Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other
Customer Signature _____ Dated _____
Print Name _____ Customer Tracking Number (optional) _____

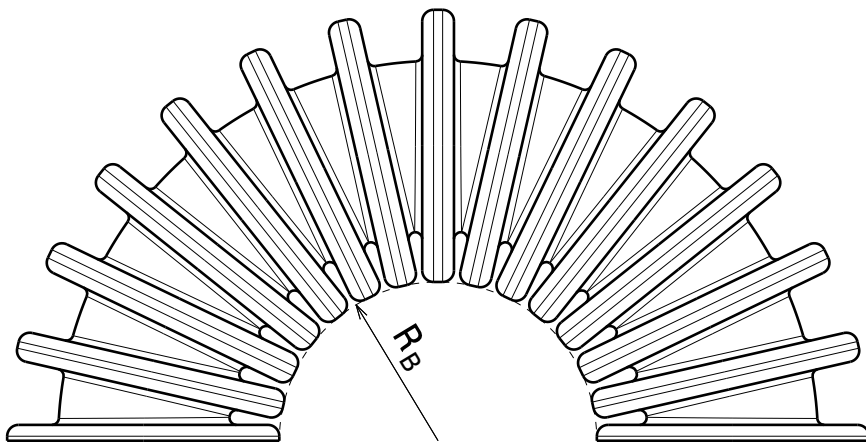
This drawing is the exclusive property of DELFINGEN and cannot be reproduced or communicated without its authorization.



grüner Streifen / Green Stripes				Ohne Kennzeichnung / Without Marking				Nenn- weite Nominal Width NW	ØA mm	ØI mm	a mm	b mm	s mm	β ±4° Grad Degree	Biege- ²⁾ radius Bending- radius R _b [mm]	Gewicht ca. Weight Approx. g/m
Ringware / Coil		Container		Ringware / Coil		Container										
EDV-Art.-Nr. ungeschlitzt Part- No. Unslit	EDV-Art.-Nr. geschlitzt Part- No. Slit	EDV-Art.-Nr. ungeschlitzt Part- No. Unslit	EDV-Art.-Nr. geschlitzt Part- No. Slit	EDV-Art.-Nr. ungeschlitzt Part- No. Unslit	EDV-Art.-Nr. geschlitzt Part- No. Slit	EDV-Art.-Nr. ungeschlitzt Part- No. Unslit	EDV-Art.-Nr. geschlitzt Part- No. Slit									
1931920	1931904	1931922	1931923	1926601	1931744	1931604	1931704	4,5	7,1	5,0	2,2	1,2	0,17-0,51	30	12	9
1931924	1931906	1931926	1931927	1931806	1931746	1931606	1931706	6	9,2	6,0	2,8	1,7	min.0,17	26	10	14
1931928	1931907	1931930	1931931	1926600	1926694	1931607	1931707	7,5	9,9	6,9	2,6	1,8	0,17-0,51	11	15	12
1931932	1931933	1931934	1931935	1926602	1931748	1931608	1931708	8,5	11,6	8,5	2,3	1,4	0,17-0,51	20	18	13
1931936	1931937	1931938	1931939	1931810	1931750	1931610	1931710	10	12,7	10,1	2,7	1,8	0,17-0,64	20	18	14
1931940	1931941	1931942	1931943	1931812	1931752	1931612	1931712	12	15,6	12,0	3,1	2,2	min.0,17	11	20	21
1931944	1931945	1931946	1931947	1931813	1931753	1931613	1931713	13	15,8	12,9	2,7	1,8	0,17-0,51	11	22	23
1931948	1931949	1931950	1931951	1931814	1931754	1931614	1931714	14	18,3	14,5	3,2	2,3	min.0,17	11	25	28
1931952	1931953	1931954	1931955	1931816	1931756	1931616	1931716	16	18,8	15,2	2,5	1,5	min.0,17	18	25	28
1931956	1931957	1931958	1931959	1931985	1931757	1931617	1931717	17	21,0	16,8	3,2	2,2	0,17-0,51	11	30	30
1931960	1931961	1931962	1931963	1931819	1931759	1931619	1931719	19	24,0	19,4	3,1	2,2	0,17-0,51	11	35	38
1931964	1931965	1931966	1931967	1931822	1931762	1931622	1931722	22	25,5	21,8	3,1	2,2	min.0,20	11	37	44
1931968	1931969	1931970	1931971	1931823	1931763	1931623	1931723	23	28,0	23,7	3,1	2,2	0,20-0,77	11	42	53
1931972	1931973	1931974	1931975	1931826	1931766	1931626	1931726	26	31,3	26,4	3,1	2,2	min.0,25	11	47	64
1931976	1931979	1931978	1931984	1931829	1931779	1931629	1931729	29	33,9	29,3	3,4	2,3	min.0,25	11	60	66
1931980	1931981	1931982	1931983	1931837	1931764	1931637	1931737	37	42,0	36,7	3,9	2,8	min.0,30	12	70	98
AHW - Profile																
1931458	1931858	1931258	1931358	1931459	1931559	1931658	1931758	8,5 AHW	12,9	8,5	3,1	2,1	0,17-0,51	18	17	22
1931461	1931561	1931261	1931361	1931861	1931862	1931661	1931761	11 AHW	15,7	11,1	3,1	2,1	0,17-0,51	18	22	26
1931465	1931565	1931265	1931365	1931865	1931866	1931665	1931765	15 AHW	21,2	15,0	3,9	2,7	0,17-0,51	12	30	39
1931469	1931569	1931269	1931369	1931869	1931870	1931669	1931769	19 AHW	25,7	19,1	4,3	2,9	0,17-0,51	12	38	50
1931476	1931576	1931276	1931376	1931876	1931877	1931676	1931776	26S AHW	31,6	24,9	4,2	2,6	min.0,30	6	50	70
1931534	1931734	1931634	1931834	1927995	1927939	1951174	1951138	34 AHW	39,5	34,1	4,0	2,7	0,17-0,77	12	69	73

2) Die angegebenen kleinsten Biegeradien beziehen sich auf den ungeschlitzten Wellenschlauch
The listed smallest bending radii refer to the unslit tube

Kleinsten Biegeradius des geschlitzten Wellenschlauches:
3 x ØI bei Füllgrad 50% bis 75%
The smallest bending radius of the slit tube 3 x ØI provided tube is filled by 50% to 75%



Toleranzen / Tolerances				
Nennweiten Nominal Widths	ØA	ØI	a	b
4,5 - 16	±0,3	±0,3	±0,10	±0,10
17 - 29	±0,4	±0,4	±0,15	±0,15
37	±0,5	±0,5	±0,20	±0,20
8,5 AHW - 11 AHW	±0,3	±0,3	±0,10	±0,10
15 AHW - 26S AHW	±0,4	±0,4	±0,15	±0,15
34 AHW	±0,5	±0,5	±0,20	±0,20

Eigenschaften Properties	Prüfvorschrift Test Specification	Prüfdauer Test Duration	Einheit Unit	Wert Value
untere Gebrauchs- temperatur Lower Operating Temperature		24 h	°C	-40
Dauergebrauchs- temperatur Continuous Operating Temperature		3000 h	°C	+105
obere Gebrauchs- temperatur, kurzzeitig Upper Operating Temperature		350 h	°C	+135
Brennbarkeit Inflammability	FMVSS 302 ¹⁾			<100mm/min
max. Füllgrad Filling Volume			%	80

¹⁾ in Anlehnung an FMVSS 302
in accordance with FMVSS 302

Kennzeichnung:
Endloser axialer grüner Streifen alternierend mit Tintenstrahlbedruckung
S.R.S >PP< NW xx (AHW) YY
Bezeichnung in Klammern nur wo zutreffend
Abstand Schriftende zu nächstem Schriftanfang: 450 mm ± 50 mm
YY: 2-stelliges Kennzeichen des Herstelllandes nach EN ISO 3166

Marking:
Endless axial green stripes, alternating print with an ink jet
S.R.S >PP< NW xx(AHW) YY
Description between brakets only for appropriate types
Distance between the end and the beginning of the next print: 450 mm ± 50 mm
YY:Two-letter identification code for the country of manufacture
according to EN ISO 3166

Toleranzen für Wellenschlauch-Abschnitte:
1% der Gesamtlänge + Teilung a (Mitte Wellenberg zu Mitte Wellenberg)
Endsumme auf ganze Zahl aufrunden = + Toleranz.

Tolerances for corrugated tube pieces:
1% of total length + wave-length [a] (mid. crest to mid. crest).
Total rounded up to the next whole number = + tolerance.

Der deutsche Text ist maßgebend.
The German original text is authoritative.

Toleranzen/TOLERANCES			n	Changed the name Schlemmer to Delfingen	05.05.21	Chu	
			m	Delivery unit of part no. 1931704 was 100m	26.09.16	Chu	
Oberflächengüte/SURFACE FINISH			l	Art. Nr. NW29 mit grünem Streifen geändert	05.02.13	Chu	
			k	Art.Nr.1931734 und 1931834 zugefügt	29.01.13	Chu	
Farbe/COLOR			Index	Kurzbeschreibung/SHORT TERM	Datum/ DATE	Name	
Werkstoff/MATERIAL			Gewicht/WEIGHT	Massstab/SCALE	ISO PROJECTION METHODE 1	 DIMENSIONS IN MILLIMETERS	Erstellt und/PRODUCED ON CATIA V5
SRS PP 2010 PP			/ g	/			
Name		Datum	Ersatz fuer/REPLACES DRAWING				
Gezeichnet/ DRAWING BY		Chu 03.12.2003	Vom/DATED:				
Geprüft/ APPROVED		Schmidt 03.12.2003	Ersatz durch/REPLACED BY				
			Vom/DATED:				
Benennung/DESIGNATION				Zeichnungs-Nr./DRAWING NO.			Format A1
Wellenschlauch PP Corrugated Tube PP				19314903-FORD			Blatt/PAGE: 01
							von/OF: 01

Production Part Approval - Dimensional Results

DaimlerChrysler Ford General Motors

ORGANIZATION: Delfingen DE Haßfurt GmbH					PART NUMBER: 1931970		
SUPPLIER/VENDOR CODE: 34-320-6862					PART NAME: PP NW23 SW GRN.STR. CONT.		
INSPECTION FACILITY:					DESIGN RECORD CHANGE LEVEL: n		
					ENGINEERING CHANCE DOCUMENTS:		

ITEM	DIMENSION / SPECIFICATION	SPECIFICATION / LIMITS	TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULTS (DATA)	OK	NOT OK
1	A-Ø	28,0 +/- 0,4 mm	25.08.2022	3 St.	27,98 - 28,10 mm	x	
2	I-Ø	23,7 +/- 0,4 mm	25.08.2022	3 St.	23,55 - 23,65 mm	x	
3	a	3,1 +/- 0,15 mm	25.08.2022	3 St.	3,13 - 3,18 mm	x	
4	b	2,2 +/- 0,15 mm	25.08.2022	3 St.	2,15 - 2,18 mm	x	
5	s	0,20 - 0,77 mm	25.08.2022	3 St.	0,37 - 0,42 mm	x	
6	angle	11° +/- 4°	25.08.2022	3 St.	10° - 11°	x	
7							
8	bending radius	42 mm	25.08.2022	3 St.	≥ 42 mm	x	
	flammability acc. FMVSS 302 < 100mm/min.		25.08.2022	3 St.	< 100 mm/min	x	
	Material	SRS PP 2010			SRS PP 2010	x	
	marking	acc. drawing			green text + stripes	x	

Blanket statements of conformance are unacceptable for any test results.

Florian Hartmann
Specialist Quality Engineering PPAP




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SIGNATURE	TITLE	DATE
Florian Hartmann	Quality Engineering Haßfurt	19.09.2022

Material Identification

PPST

several colors available

Properties	Value	Unit	Test Conditions	
General				
Density ¹⁾	0,91	g/cm3	23 °C	ISO 1183
Melt Flow Rate (MFR)	1,2	g/10min	230 °C / 2.16 kg	ISO 1133
Mechanical				
Tensile Modulus	1250	MPa	1 mm/min	ISO 527-1/-2
Tensile Stress at Yield	23	MPa	50 mm/min	ISO 527-1/-2
Tensile Strain at Yield	5	%	50 mm/min	ISO 527-1/-2
Charpy Notched Impact Strength	80	kJ/m2	23 °C	ISO 179/1eA
	10	kJ/m2	-30 °C	ISO 179/1eA
Thermal				
Temperature of Heat Deflection	55	°C	1.8 MPa	ISO 75
	85	°C	0.45 MPa	ISO 75
Vicat Softening Temperature	148	°C	10 N; 120 °C/h	ISO 306
	68	°C	50 N; 120 °C/h	ISO 306
Flammability				
Burning rate	< 100 mm/min	Type	---	FMVSS 302 ¹⁾
Product specifications ¹⁾				
Service temperature	-40	°C	1000h	-
	105	°C	3000h	-
Peak temperature	135	°C	350h	-

1) product related - corrugated tube

The stated values fall within the normal range of properties of the base polymer out of the mixed composition unless otherwise noted. They should not be used for setting specific limits or used as a basis for design as the properties are extensively affected by the tool design and processing conditions. Users of this product are responsible for evaluating this product to ensure their own satisfaction that it is suitable for their intended uses. All information is given without warranty or guarantee. Before working with this product, users must read and familiarize themselves with the available health, safety and environmental information that is available regarding product hazards, proper use and handling.