Rosenberger

AIAG
Automotive Industry Action Group

Acc. to AIAG PPAP 4th edition

PPAP (Production Part Approval Process) submission

Design Drawing Number:	LAQ-118-2040-E-E_FORD	Version: AELE E 1377	Date: 21.11.2022

Rosenberger part numbers:	Customer part numbers:	OEM part numbers:
90010406	MU5T-14H007-EAA2040	

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

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Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

1

Design record

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

LTRS	REVISIONS		
ORIGINATOR	CHECKER	ENGR APP	MATL APP
RELEASED AELE E 13777777 550 20221121			
SDRUYOR	S.DUMANN	RRAUCHM2	N/A

ITEM	BASE NAME	DESCRIPTION	FORD PN	SUPPLIER PN	COLOR OR PLATING	WEIGHT
1	-	JACKETED UNSHIELDED TWISTED PAIR (J-UTP)	ETHA (PER ESML3T-1A348-AA)	GEBAUER & GRILLER - 160812	-	12 g/m
2	-	ID LABEL (2D DATA MATRIX)	PIA	-	-	1g
3	CONN ASY WIR	SOCKET CONTACT FEM	MU5T-14487-AA	E7K11A-1AQ/20Z	GOLD	0.04g
4	TRMNL BUL TYP	CONTACT PIN MLE	MU5T-14461-AA	E7S11A-1AQ/20Z	GOLD	0.04g
5	SPCR WIR CONN	LOWER HOUSING FEM	MU5T-14A468-AA	E7K10A-1AQ/50	GRAY	0.15g
6	SPCR WIR CONN	LOWER HOUSING MLE	MU5T-14A468-BA	E7S11A-1AQ/50	GRAY	0.3g
7	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY T	MU5T-14489-ASA	E7Z011-000T	SIGNAL BLUE	1g
	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY R	TU5T-14489-GA	E7Z011-000R	LEAF GREEN	1g
	SLV WIR CONN FEM	UPPER HOUSING INSERT FEM - KEY A	MU5T-14489-FA	E7K10A-1AQ/51A	BLACK	0.2g
	SLV WIR CONN FEM	UPPER HOUSING INSERT FEM - KEY B	MU5T-14489-GA	E7K10A-1AQ/51B	WHITE	0.2g
	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY A	MU5T-14489-EA	E7Z007-000A	BLACK	1g
	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY B	MU5T-14489-ABA	E7Z007-000B	WHITE	1g
	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY C	MU5T-14489-ACA	E7Z007-000C	BLUE	1g
	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY D	MU5T-14489-ADA	E7Z007-000D	CLARET VIOLET	1g
	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY E	MU5T-14489-AEA	E7Z007-000E	GREEN	1g
	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY F	MU5T-14489-AFA	E7Z007-000F	BROWN	1g
	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY G	MU5T-14489-AGA	E7Z007-000G	GRAY	1g
	SLV WIR CONN FEM	UPPER HOUSING FEM - KEY H	MU5T-14489-AHA	E7Z007-000H	LIGHT PINK	1g
8	SLV WIR CONN MLE	UPPER HOUSING MLE - KEY A	MU5T-14A459-AA	E7Z005-C00A	BLACK	1.4g
	SLV WIR CONN MLE	UPPER HOUSING MLE - KEY B	MU5T-14A459-BA	E7Z005-C00B	WHITE	1.4g
	SLV WIR CONN MLE	UPPER HOUSING MLE - KEY C	MU5T-14A459-CA	E7Z005-C00C	BLUE	1.4g
	SLV WIR CONN MLE	UPPER HOUSING MLE - KEY D	MU5T-14A459-DA	E7Z005-C00D	CLARET VIOLET	1.4g
	SLV WIR CONN MLE	UPPER HOUSING MLE - KEY E	MU5T-14A459-EA	E7Z005-C00E	GREEN	1.4g
	SLV WIR CONN MLE	UPPER HOUSING MLE - KEY F	MU5T-14A459-FA	E7Z005-C00F	BROWN	1.4g
	SLV WIR CONN MLE	UPPER HOUSING MLE - KEY G	MU5T-14A459-GA	E7Z005-C00G	GRAY	1.4g
	SLV WIR CONN MLE	UPPER HOUSING MLE - KEY H	MU5T-14A459-HA	E7Z005-C00H	LIGHT PINK	1.4g
	SLV WIR CONN MLE	UPPER HOUSING MLE - KEY T	SU5T-14A459-BA	E7Z012-C00T	SIGNAL BLUE	1.4g

FORD ASSEMBLY PN

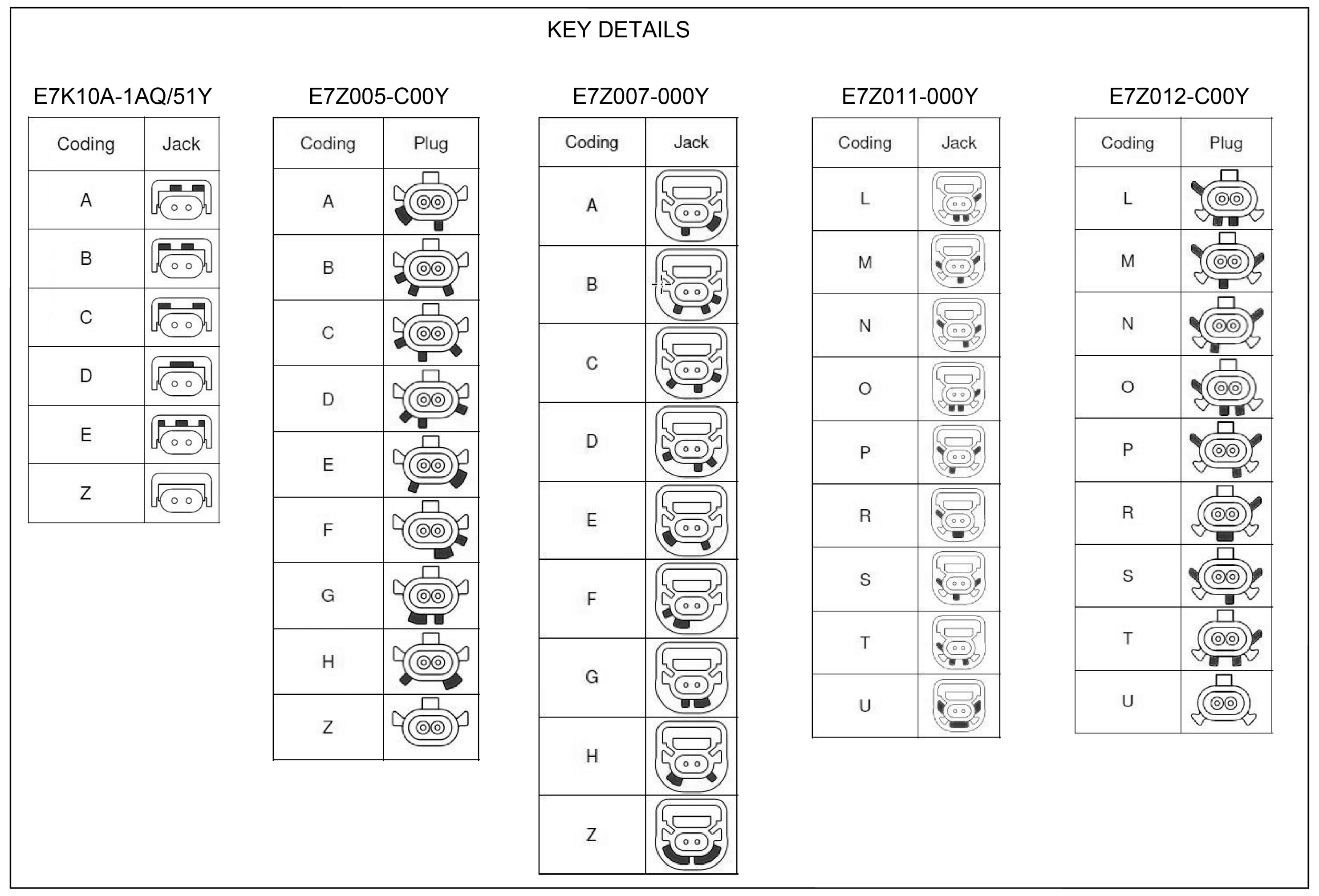
FORD PN	RU5T-14F662-AAA	RU5T-14F662-ABA	RU5T-14F662-ACA	RU5T-14F662-ADA	RU5T-14F662-AEA	RU5T-14F662-AFA	RU5T-14F662-AGA	RU5T-14F662-AHA	RU5T-14F662-AJA	RU5T-14F662-AKA	RU5T-14F662-CGA	RU5T-14F662-CHA	RU5T-14F662-CJA	RU5T-14F662-CKA
	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY
ETHA (PER ESML3T-1A348-AA)	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
PIA	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MU5T-14487-AA	4	4	4		4	4	4	4	2	2	4	4	4	4
MU5T-14461-AA				4					2	2				
MU5T-14A468-AA	2	2	2		2	2	2	2	1	1	2	2	2	2
MU5T-14A468-BA				2					1	1				
MU5T-14489-ASA	2	2	1		1	1					1	1		
TU5T-14489-GA			1				1	1					1	1
MU5T-14489-FA					1		1		1		1		1	
MU5T-14489-GA						1		1		1		1		1
MU5T-14489-EA														
MU5T-14489-ABA														
MU5T-14489-ACA														
MU5T-14489-ADA														
MU5T-14489-AEA														
MU5T-14489-AFA														
MU5T-14489-AGA														
MU5T-14489-AHA														
MU5T-14A459-AA														
MU5T-14A459-BA														
MU5T-14A459-CA														
MU5T-14A459-DA														
MU5T-14A459-EA														
MU5T-14A459-FA														
MU5T-14A459-GA														
MU5T-14A459-HA														
SU5T-14A459-BA				2					1	1				
SUPPLIER ASSEMBLY PN	LAQ-151-XXX-T-T_FORD	LAQ-151-XXX-R-R_FORD	LAQ-151-XXX-T-R_FORD	LAQ-153-XXX-T-T_FORD	LAQ-158-XXX-A-T_FORD	LAQ-158-XXX-B-T_FORD	LAQ-158-XXX-A-R_FORD	LAQ-158-XXX-B-R_FORD	LAQ-159-XXX-A-T_FORD	LAQ-159-XXX-B-T_FORD	LAQ-160-XXX-A-T_FORD	LAQ-160-XXX-B-T_FORD	LAQ-160-XXX-A-R_FORD	LAQ-160-XXX-B-R_FORD

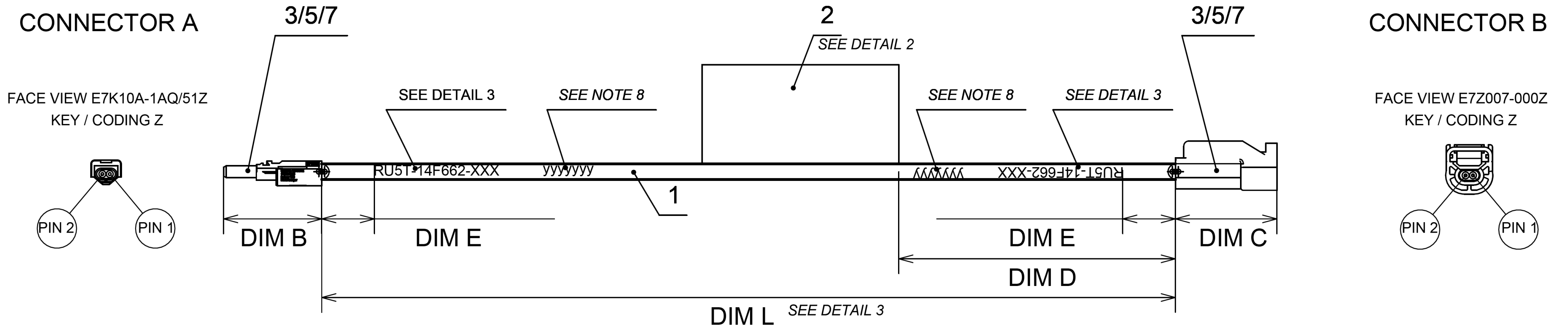
FORD PN	RU5T-14F662-ALA	RU5T-14F662-AMA	RU5T-14F662-ANA	RU5T-14F662-APA	RU5T-14F662-ARA	RU5T-14F662-ASA	RU5T-14F662-ATA	RU5T-14F662-AUA	RU5T-14F662-AVA	RU5T-14F662-AXA	RU5T-14F662-AYA	RU5T-14F662-AZA	RU5T-14F662-BAA	RU5T-14F662-BBA
	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY
ETHA (PER ESML3T-1A348-AA)	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
PIA	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MU5T-14487-AA	4	4	4	4	4	4	4	4	4	4	4	4	4	4
MU5T-14461-AA														
MU5T-14A468-AA	2	2	2	2	2	2	2	2	2	2	2	2	2	2
MU5T-14A468-BA														
MU5T-14489-ASA	1	1	1	1	1	1	1	1						
TU5T-14489-GA									1	1	1	1	1	1
MU5T-14489-FA														
MU5T-14489-GA														
MU5T-14489-EA	1								1					
MU5T-14489-ABA		1								1				
MU5T-14489-ACA			1								1			
MU5T-14489-ADA				1								1		
MU5T-14489-AEA					1								1	
MU5T-14489-AFA						1								1
MU5T-14489-AGA							1							
MU5T-14489-AHA								1						
MU5T-14A459-AA														
MU5T-14A459-BA														
MU5T-14A459-CA														
MU5T-14A459-DA														
MU5T-14A459-EA														
MU5T-14A459-FA														
MU5T-14A459-GA														
MU5T-14A459-HA														
SU5T-14A459-BA														
SUPPLIER ASSEMBLY PN	LAQ-161-XXX-A-T_FORD	LAQ-161-XXX-B-T_FORD	LAQ-161-XXX-C-T_FORD	LAQ-161-XXX-D-T_FORD	LAQ-161-XXX-E-T_FORD	LAQ-161-XXX-F-T_FORD	LAQ-161-XXX-G-T_FORD	LAQ-161-XXX-H-T_FORD	LAQ-161-XXX-A-R_FORD	LAQ-161-XXX-B-R_FORD	LAQ-161-XXX-C-R_FORD	LAQ-161-XXX-D-R_FORD	LAQ-161-XXX-E-R_FORD	LAQ-161-XXX-F-R_FORD

FORD PN	RU5T-14F662-BCA	RU5T-14F662-BDA	RU5T-14F662-BEA	RU5T-14F662-BFA	RU5T-14F662-BGA	RU5T-14F662-BHA	RU5T-14F662-BJA	RU5T-14F662-BKA	RU5T-14F662-BLA	RU5T-14F662-BMA	RU5T-14F662-BNA	RU5T-14F662-BPA	RU5T-14F662-BRA	RU5T-14F662-BSA
	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY
ETHA (PER ESML3T-1A348-AA)	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
PIA	1	1	1	1	1	1	1	1	1	1	1	1	1	1
MU5T-14487-AA	4	4	4	4	4	4	4	4	4	4	4	4	4	4
MU5T-14461-AA														
MU5T-14A468-AA	2	2	2	2	2	2	2	2	2	2	2	2	2	2
MU5T-14A468-BA														
MU5T-14489-ASA			1	1	1	1	1	1	1	1				
TU5T-14489-GA	1	1									1	1	1	1
MU5T-14489-FA														
MU5T-14489-GA														
MU5T-14489-EA			1								1			
MU5T-14489-ABA				1								1		
MU5T-14489-ACA					1								1	
MU5T-14489-ADA						1								1
MU5T-14489-AEA							1							
MU5T-14489-AFA								1						
MU5T-14489-AGA	1								1					
MU5T-14489-AHA		1								1				
MU5T-14A459-AA														
MU5T-14A459-BA														
MU5T-14A459-CA														
MU5T-14A459-DA														
MU5T-14A459-EA														
MU5T-14A459-FA														
MU5T-14A459-GA														
MU5T-14A459-HA														
SU5T-14A459-BA														
SUPPLIER ASSEMBLY PN	LAQ-161-XXX-G-R_FORD	LAQ-161-XXX-H-R_FORD	LAQ-162-XXX-A-T_FORD	LAQ-162-XXX-B-T_FORD	LAQ-162-XXX-C-T_FORD	LAQ-162-XXX-D-T_FORD	LAQ-162-XXX-E-T_FORD	LAQ-162-XXX-F-T_FORD	LAQ-162-XXX-G-T_FORD	LAQ-162-XXX-H-T_FORD	LAQ-162-XXX-A-R_FORD	LAQ-162-XXX-B-R_FORD	LAQ-162-XXX-C-R_FORD	LAQ-162-XXX-D-R_FORD

FORD PN	RU5T-14F662-BTA	RU5T-14F662-BUA	RU5T-14F662-BVA	RU5T-14F662-BXA	RU5T-14F662-BYA	RU5T-14F662-BZA	RU5T-14F662-CAA	RU5T-14F662-CBA	RU5T-14F662-CCA	RU5T-14F662-CDA	RU5T-14F662-CEA	RU5T-14F662-CFA
	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY	QTY
ETHA (PER ESML3T-1A348-AA)	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R	A/R
PIA	1	1	1	1	1	1	1	1	1	1	1	1
MU5T-14487-AA	4	4	4	4								
MU5T-14461-AA					4	4	4	4	4	4	4	4
MU5T-14A468-AA	2	2	2	2								
MU5T-14A468-BA					2	2	2	2	2	2	2	2
MU5T-14489-ASA												
TU5T-14489-GA	1	1	1	1								
MU5T-14489-FA												
MU5T-14489-GA												
MU5T-14489-EA												
MU5T-14489-ABA												
MU5T-14489-ACA												
MU5T-14489-ADA												
MU5T-14489-AEA	1											
MU5T-14489-AFA		1										
MU5T-14489-AGA			1									
MU5T-14489-AHA				1								
MU5T-14A459-AA					1							
MU5T-14A459-BA						1						
MU5T-14A459-CA							1					
MU5T-14A459-DA								1				
MU5T-14A459-EA									1			
MU5T-14A459-FA										1		
MU5T-14A459-GA											1	
MU5T-14A459-HA												1
SU5T-14A459-BA					1	1	1	1	1	1	1	1
SUPPLIER ASSEMBLY PN	LAQ-162-XXX-E-R_FORD	LAQ-162-XXX-F-R_FORD	LAQ-162-XXX-G-R_FORD	LAQ-162-XXX-H-R_FORD	LAQ-163-XXX-A-T_FORD	LAQ-163-XXX-B-T_FORD	LAQ-163-XXX-C-T_FORD	LAQ-163-XXX-D-T_FORD	LAQ-163-XXX-E-T_FORD	LAQ-163-XXX-F-T_FORD	LAQ-163-XXX-G-T_FORD	LAQ-163-XXX-H-T_FORD

KEY DETAILS





For pinning, please refer to individual cable prints

PAGE 2	RU5T-14F662-ABA
PAGE 2	RU5T-14F662-ACA
PAGE 3	RU5T-14F662-ADA
PAGE 4	RU5T-14F662-AEA
PAGE 4	RU5T-14F662-AFA
PAGE 4	RU5T-14F662-AGA
PAGE 4	RU5T-14F662-AHA
PAGE 5	RU5T-14F662-AJA
PAGE 5	RU5T-14F662-AKA
PAGE 6	RU5T-14F662-CGA
PAGE 6	RU5T-14F662-CHA
PAGE 6	RU5T-14F662-CJA
PAGE 6	RU5T-14F662-CKA
PAGE 6	RU5T-14F662-ALA
PAGE 7	RU5T-14F662-AMA
PAGE 7	RU5T-14F662-ANA
PAGE 7	RU5T-14F662-APA
PAGE 7	RU5T-14F662-ARA
PAGE 7	RU5T-14F662-ASA
PAGE 7	RU5T-14F662-ATA
PAGE 7	RU5T-14F662-AUA
PAGE 7	RU5T-14F662-AVA
PAGE 7	RU5T-14F662-AXA
PAGE 7	RU5T-14F662-AYA
PAGE 7	RU5T-14F662-AZA
PAGE 7	RU5T-14F662-BAA
PAGE 7	RU5T-14F662-BBA
PAGE 7	RU5T-14F662-BCA
PAGE 7	RU5T-14F662-BDA
PAGE 8	RU5T-14F662-BEA
PAGE 8	RU5T-14F662-BFA
PAGE 8	RU5T-14F662-BGA
PAGE 8	RU5T-14F662-BHA
PAGE 8	RU5T-14F662-BJA
PAGE 8	RU5T-14F662-BKA
PAGE 8	RU5T-14F662-BLA
PAGE 8	RU5T-14F662-BMA
PAGE 8	RU5T-14F662-BNA
PAGE 8	RU5T-14F662-BPA
PAGE 8	RU5T-14F662-BRA
PAGE 8	RU5T-14F662-BSA
PAGE 8	RU5T-14F662-BTA
PAGE 8	RU5T-14F662-BUA
PAGE 8	RU5T-14F662-BVA
PAGE 8	RU5T-14F662-BXA
PAGE 9	RU5T-14F662-BYA
PAGE 9	RU5T-14F662-BZA
PAGE 9	RU5T-14F662-CAA
PAGE 9	RU5T-14F662-CBA
PAGE 9	RU5T-14F662-CCA
PAGE 9	RU5T-14F662-CDA
PAGE 9	RU5T-14F662-CEA
PAGE 9	RU5T-14F662-CFA
SHOWN ON	FORD PART NUMBER

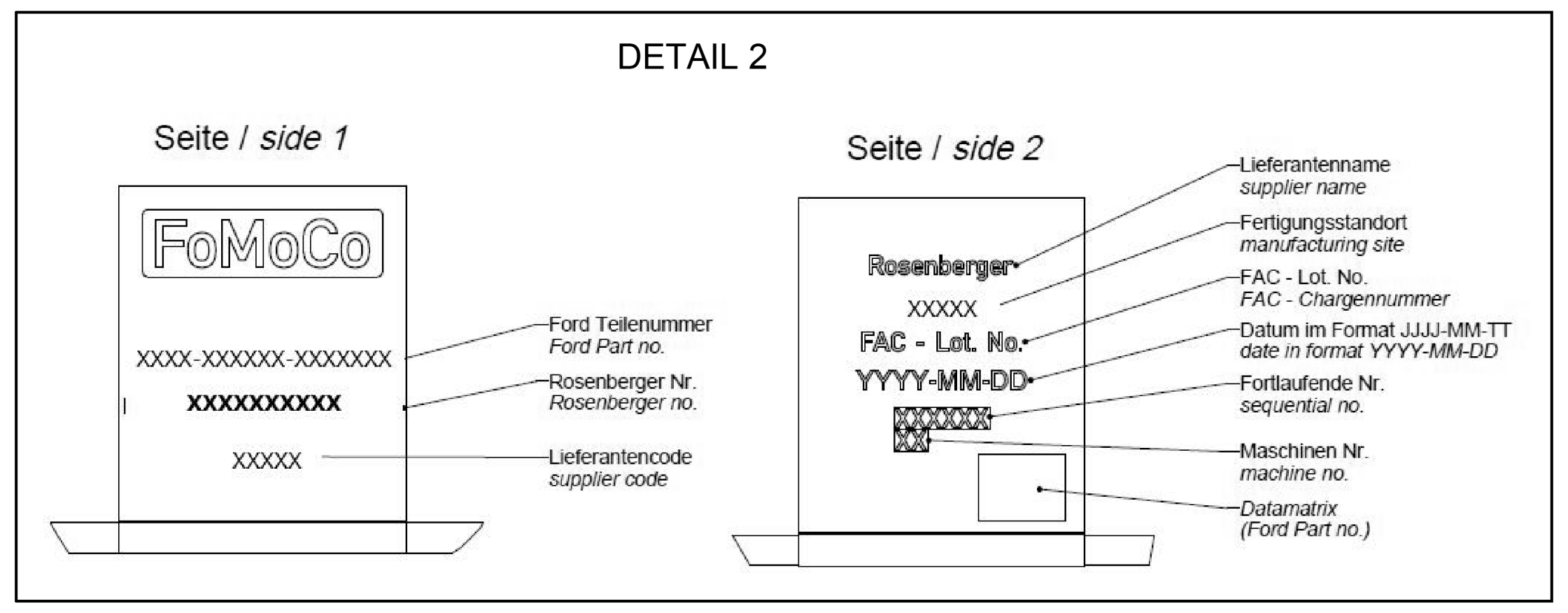
CONNECTOR COMBINATIONS

CONNECTOR 1	CONNECTOR 2	DIM B (mm)	DIM C (mm)	DIM D (mm)	DIM E (mm)	DIM L (mm)
FEMALE	FEMALE	(20.65)	(20.65)	60	18	SEE DETAIL 3
MALE	MALE	(29.25)	(29.25)	60	18	SEE DETAIL 3
INSERT	FEMALE	(19.95)	(20.65)	60	18	SEE DETAIL 3
INSERT	MALE	(19.95)	(29.25)	60	18	SEE DETAIL 3

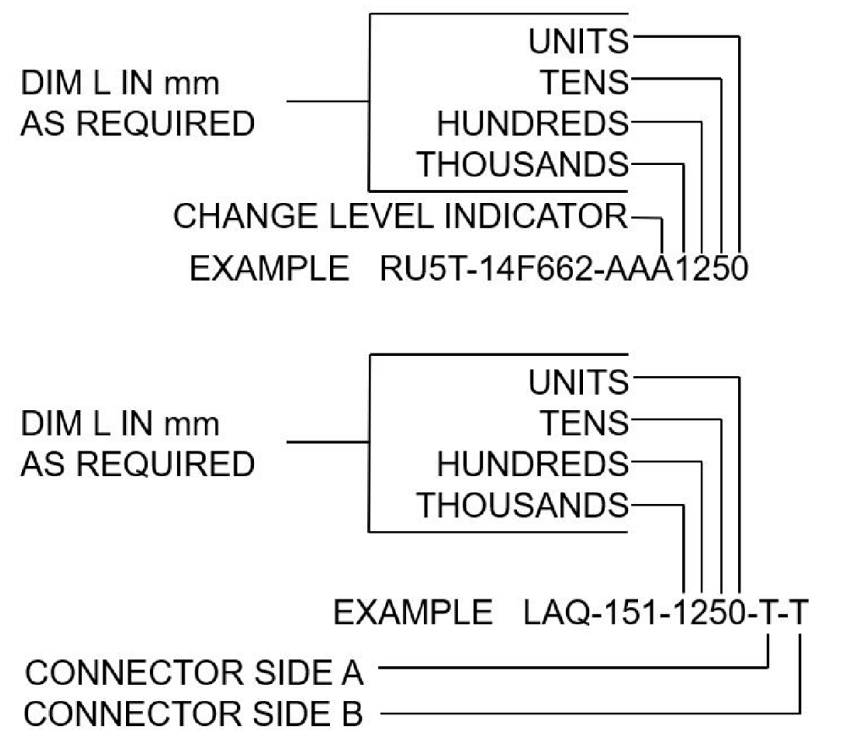
TOLERANCES

RANGE IN mm (DIM L)	200 to 1000	1001 to 5000	5001 to 20000
TOLERANCE IN mm	+20/-0	+30/-0	+40/-0

DETAIL 2



DETAIL 3



NOTE:
EXAMPLE PN IN DETAIL 3
IS FOR REFERENCE PURPOSES
AND DOES NOT REPRESENT
ASSEMBLY SHOWN ABOVE

1. CONFORMS TO: RQT-00600-022384 (EY-0166)
2. OTHER THAN UNITED STATES MANUFACTURED COMPONENTS THE COUNTRY OF ORIGINMUST BE CLEARLY MARKED OR DISPLAYED IN ENGLISH (SEE ID LABEL)
3. PART AS RECEIVED AT THE FORD PLANT OR SERVICE PART PACKAGER / WAREHOUSE SHALL BE FREE OF ANY CORROSION ALIGNED WITH THE FORD CUSTOMER SERVICE DEVISION (FCSD) PACKAGING AND SHIPPING GUIDE. CORROSION INHIBITORS OR FOREIGN MATERIALS DETRIMENTAL TO THE INSTALLATION OR FUNCTION OF THE PART MUST BE REMOVABLE BY THE INTENDED CLEANING METHOD
4. CHANGES TO DESIGN, COMPOSITION OR PROCESSING OF THE PART PREVIOUSLY APPROVED FOR PRODUCTION REQUIRE PRIOR APPROVAL FROM FORD MOTOR COMPANY PRODUCT ENGINEERING. REFER TO ISO/TS 16949
5. FOR CURRENT RELEASE STATUS SEE THE WERS ENGINEERING NOTICE
6. PART BRANDING (TRADEMARK) AND CODING MUST BE IN ACCORDANCE WITH FORDWITH FORD ENGINEERING CAD AND DRAFTING STANDARDS, SECTION E-3. THIS PART ASSEMBLY MUST COMPLY WITH BRANDING DIRECTIVE E-108 OR THE EXEMPTION # SHOWN IS THE AUTHORITY FOR NON-COMPLIANCE
    a. THIS PART HAS RECEIVED A TRADEMARK EXEMPTION NUMBER: 18-00810A
7. WEIGHT IN WERS CALCULATED BASED ON ETHERNET CABLE ASSEMBLY MINIMUM ALLOWABLE DESIGN LENGTH (DIM L = 500MM)
8. MARKING: ROSENBERGER BATCH NUMBER "XXXXXXX"
9. FOR THE PURPOSES OF GEOMETRIC TOLERANCING, ALL DIMENSIONAL INFORMATION CONTAINED IN THE CAD MODEL IS BASIC (THEORETICAL)
10. THIS DRAWING HAS BEEN PREPARED BY OR ON BEHALF OF FORD MOTOR COMPANY.

ROSENBERGER

ROSENBERGER
734-231-5351
4 PARK LANE BLVD SUITE 307
DEARBORN, MI 48126

ENG APP	R.SHEARDOWN	APP DATE	2022121
GSDB CODE DNTB	SUPPLIER PART NUMBER N/A		

REFERENCE MTD A2B ASY

MUST CONFORM TO: 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 30

3RD ANGLE PROJ
DIMENSIONS ARE IN MILLIMETERS

CAD TYPE	CAD LOC	CAD FILE			DTM
K-CATIA5	TC	RU5T-14F662-AA-DWG-01/2			IS MASTER
PLANT CODE	LINE CODE	OPER NO.	BT NO.	STATION	SIZE
N/A	N/A	N/A	N/A	N/A	N/A
PLANT NAME		DEPT NO.	DESIGN	SCALE	SHT 1
N/A		N/A	SDRUYOR	1:1	OF 9

TITLE/PART NAME
CA ASY CXL

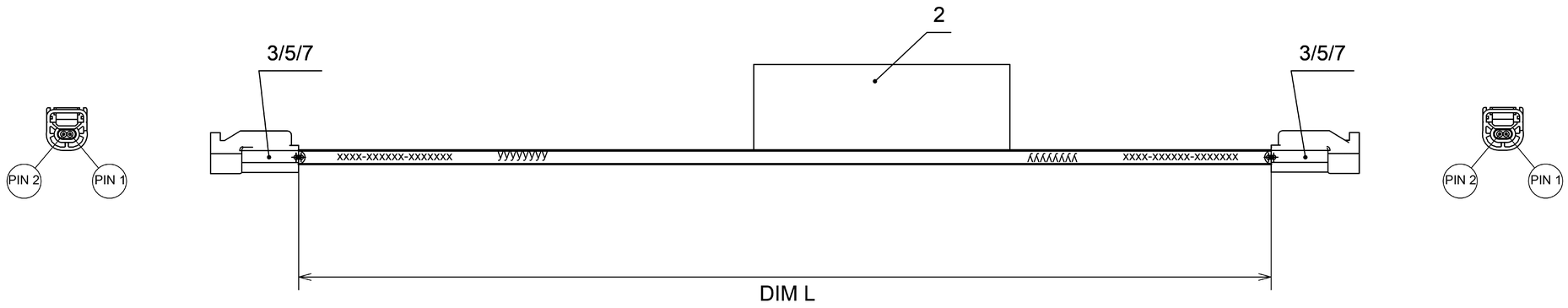
DRAWING/PART NO.
RU5T-14F662-AAA
N/A

FORD MOTOR COMPANY

Side A

EXAMPLE FEMALE TO FEMALE

Side B



PINNING

ROSENBERGER ASSEMBLY PART NUMBER	FORD ASSEMBLY PART NUMBER
LAQ-151-XXX-T-T_FORD	RU5T-14F662-AAAXXXX
LAQ-151-XXX-R-R_FORD	RU5T-14F662-ABAXXXX
LAQ-151-XXX-T-R_FORD	RU5T-14F662-ACAXXXX

DRAWING/PART NO. RU5T-14F662-AAA | REV REL | SHT 2

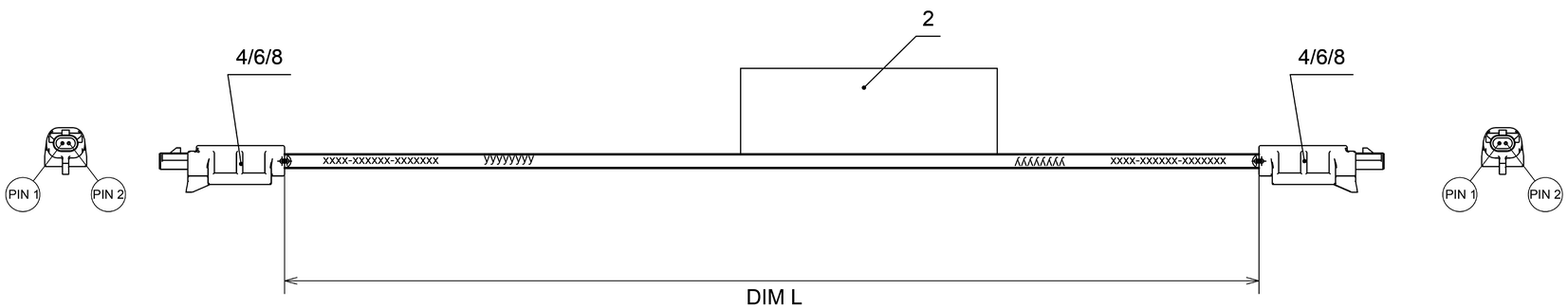
CAD FILE RU5T-14F662-AA-DWG-01/2

FORD MOTOR COMPANY

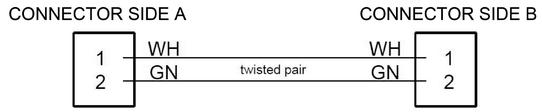
Side A

EXAMPLE MALE TO MALE

Side B



PINNING



ROSENBERGER ASSEMBLY PART NUMBER	FORD ASSEMBLY PART NUMBER
LAQ-153-XXX-T-T_FORD	RU5T-14F662-ADAXXXX

DRAWING/PART NO. RU5T-14F662-AAA | REV REL | SHT 3

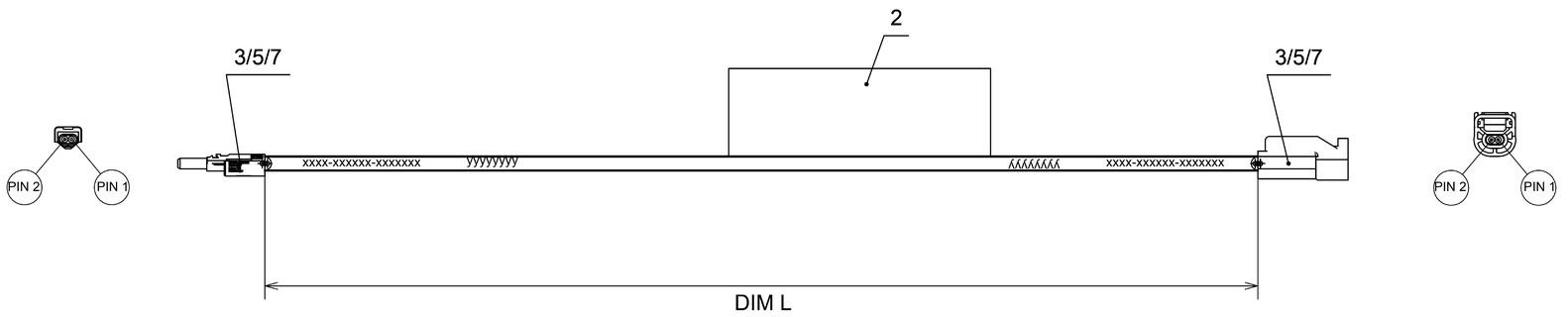
CAD FILE RU5T-14F662-AA-DWG-01/2

FORD MOTOR COMPANY

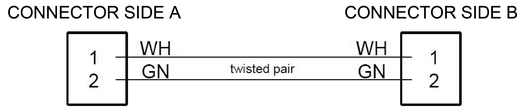
Side A

EXAMPLE INSERT TO FEMALE

Side B



PINNING



ROSENBERGER ASSEMBLY PN	FORD ASSEMBLY PART NUMBER
LAQ-158-XXX-A-T_FORD	RU5T-14F662-AEAXXXX
LAQ-158-XXX-B-T_FORD	RU5T-14F662-AFAXXXX
LAQ-158-XXX-A-R_FORD	RU5T-14F662-AGAXXXX
LAQ-158-XXX-B-R_FORD	RU5T-14F662-AHAXXXX

DRAWING/PART NO. RU5T-14F662-AAA | REV REL | SHT 4

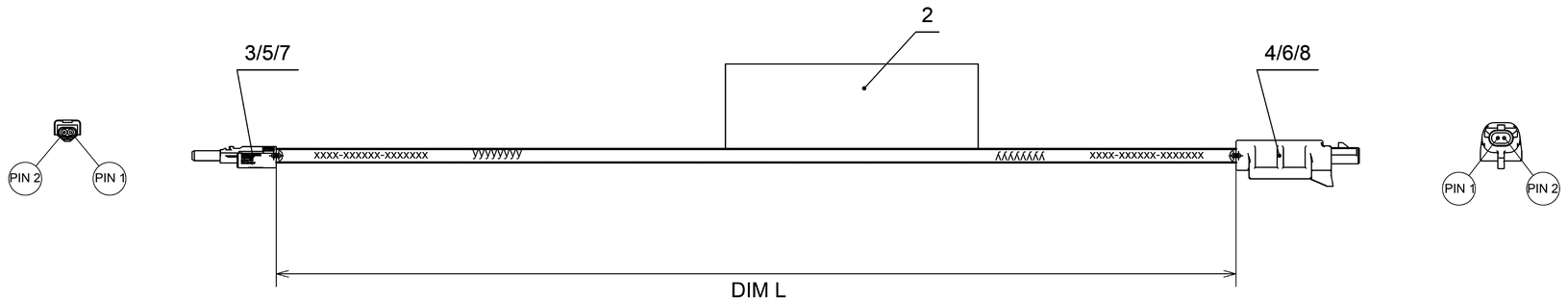
CAD FILE RU5T-14F662-AA-DWG-01/2

FORD MOTOR COMPANY

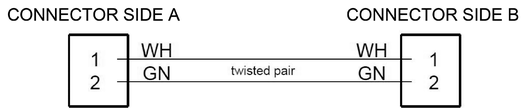
Side A

EXAMPLE INSERT TO MALE

Side B



PINNING



ROSENBERGER ASSEMBLY PART NUMBER	FORD ASSEMBLY PART NUMBER
LAQ-159-XXX-A-T_FORD	RU5T-14F662-AJAXXXX
LAQ-159-XXX-B-T_FORD	RU5T-14F662-AKAXXXX

DRAWING/PART NO. RU5T-14F662-AAA | REV REL | SHT 5

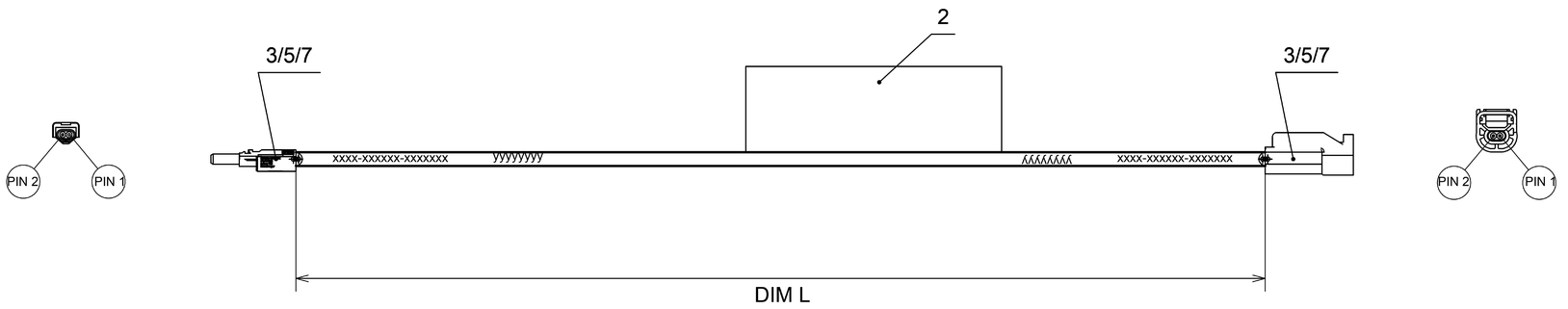
CAD FILE RU5T-14F662-AA-DWG-01/2

FORD MOTOR COMPANY

Side A

EXAMPLE INSERT TO FEMALE
(CROSSED PINNING)

Side B



CROSSED PINNING

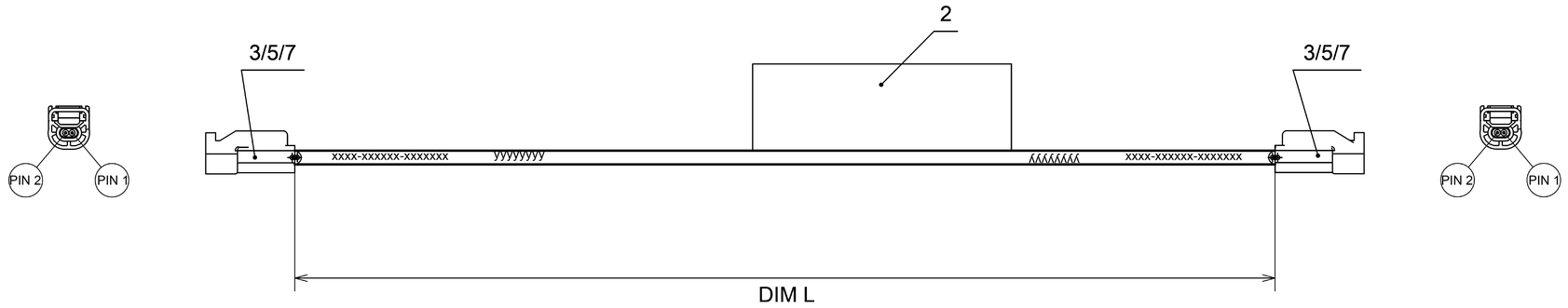
ROSENBERGER ASSEMBLY PN	FORD ASSEMBLY PART NUMBER
LAQ-160-XXX-A-T_FORD	RU5T-14F662-CGAXXXX
LAQ-160-XXX-B-T_FORD	RU5T-14F662-CHAXXXX
LAQ-160-XXX-A-R_FORD	RU5T-14F662-CJAXXXX
LAQ-160-XXX-B-R_FORD	RU5T-14F662-CKAXXXX

DRAWING/PART NO. RU5T-14F662-AAA | REV REL | SHT 6
CAD FILE RU5T-14F662-AA-DWG-01/2 | FORD MOTOR COMPANY

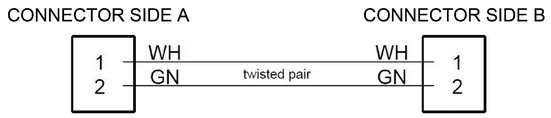
Side A

EXAMPLE FEMALE TO FEMALE

Side B



PINNING



ROSENBERGER ASSEMBLY PN	FORD ASSEMBLY PART NUMBER
LAQ-161 -XXX-A-T_FORD	RU5T-14F662-ALAXXXX
LAQ-161 -XXX-B-T_FORD	RU5T-14F662-AMAXXXX
LAQ-161 -XXX-C-T_FORD	RU5T-14F662-ANAXXXX
LAQ-161 -XXX-D-T_FORD	RU5T-14F662-APAXXXX
LAQ-161 -XXX-E-T_FORD	RU5T-14F662-ARAXXXX
LAQ-161 -XXX-F-T_FORD	RU5T-14F662-ASAXXXX
LAQ-161 -XXX-G-T_FORD	RU5T-14F662-ATAXXXX
LAQ-161 -XXX-H-T_FORD	RU5T-14F662-AUAXXXX
LAQ-161 -XXX-A-R_FORD	RU5T-14F662-AVAXXXX
LAQ-161 -XXX-B-R_FORD	RU5T-14F662-AXAXXXX
LAQ-161 -XXX-C-R_FORD	RU5T-14F662-AYAXXXX
LAQ-161 -XXX-D-R_FORD	RU5T-14F662-AZAXXXX
LAQ-161 -XXX-E-R_FORD	RU5T-14F662-BAAXXXX
LAQ-161 -XXX-F-R_FORD	RU5T-14F662-BBAXXXX
LAQ-161 -XXX-G-R_FORD	RU5T-14F662-BCAXXXX
LAQ-161 -XXX-H-R_FORD	RU5T-14F662-BDAXXXX

DRAWING/PART NO. RU5T-14F662-AAA | REV REL | SHT 7

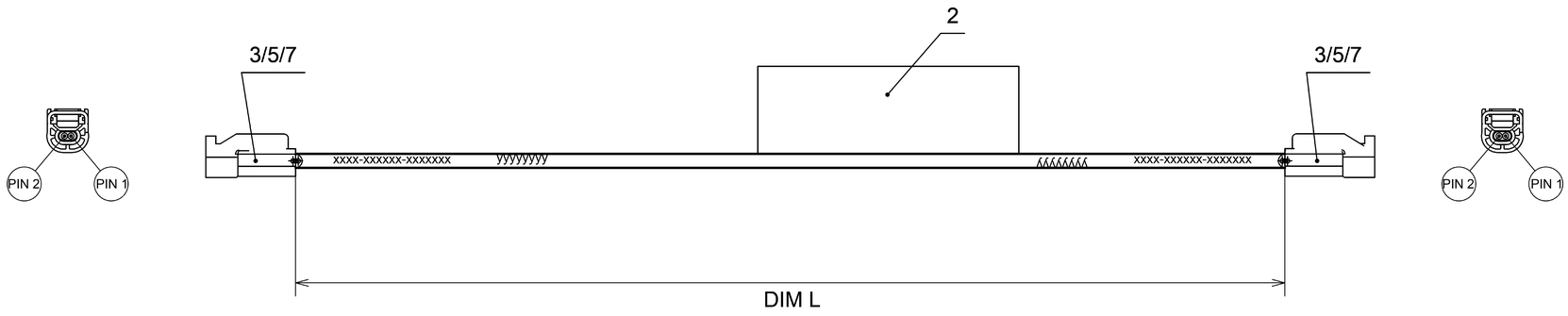
CAD FILE RU5T-14F662-AA-DWG-01/2

FORD MOTOR COMPANY

Side A

EXAMPLE FEMALE TO FEMALE
(CROSSED PINNING)

Side B



CROSSED PINNING

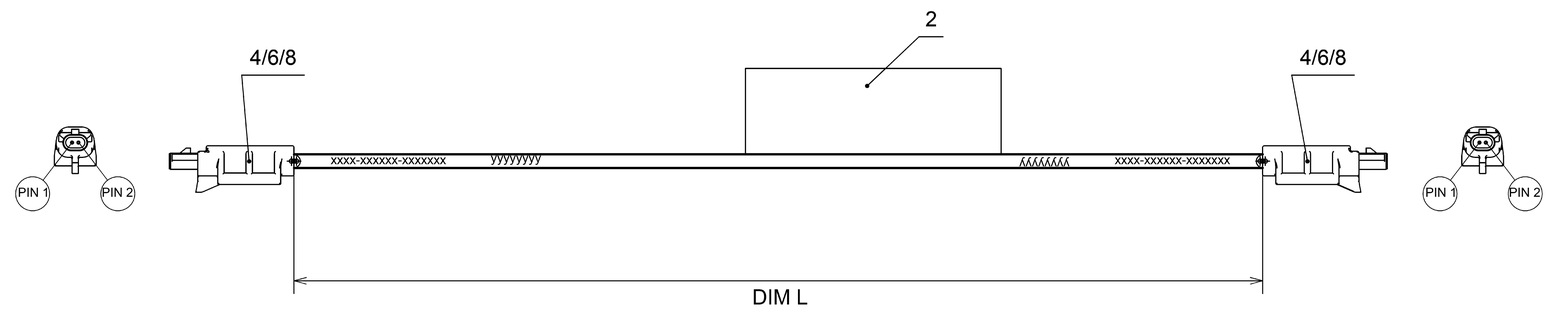
ROSENBERGER ASSEMBLY PN	FORD ASSEMBLY PART NUMBER
LAQ-162 -XXX-A-T_FORD	RU5T-14F662-BEAXXXX
LAQ-162 -XXX-B-T_FORD	RU5T-14F662-BFAXXXX
LAQ-162 -XXX-C-T_FORD	RU5T-14F662-BGAXXXX
LAQ-162 -XXX-D-T_FORD	RU5T-14F662-BHAXXXX
LAQ-162 -XXX-E-T_FORD	RU5T-14F662-BJAXXXX
LAQ-162 -XXX-F-T_FORD	RU5T-14F662-BKAXXXX
LAQ-162 -XXX-G-T_FORD	RU5T-14F662-BLAXXXX
LAQ-162 -XXX-H-T_FORD	RU5T-14F662-BMAXXXX
LAQ-162 -XXX-A-R_FORD	RU5T-14F662-BNAXXXX
LAQ-162 -XXX-B-R_FORD	RU5T-14F662-BPAXXXX
LAQ-162 -XXX-C-R_FORD	RU5T-14F662-BRAXXXX
LAQ-162 -XXX-D-R_FORD	RU5T-14F662-BSAXXXX
LAQ-162 -XXX-E-R_FORD	RU5T-14F662-BTAXXXX
LAQ-162 -XXX-F-R_FORD	RU5T-14F662-BUAXXXX
LAQ-162 -XXX-G-R_FORD	RU5T-14F662-BVAXXXX
LAQ-162 -XXX-H-R_FORD	RU5T-14F662-BXAXXXX

DRAWING/PART NO. RU5T-14F662-AAA | REV REL | SHT 8
CAD FILE RU5T-14F662-AA-DWG-01/2
FORD MOTOR COMPANY

Side A

EXAMPLE MALE TO MALE

Side B



PINNING

ROSENBERGER ASSEMBLY PN	FORD ASSEMBLY PART NUMBER
LAQ-163-XXX-A-T_FORD	RU5T-14F662-BYAXXXX
LAQ-163-XXX-B-T_FORD	RU5T-14F662-BZAXXXX
LAQ-163-XXX-C-T_FORD	RU5T-14F662-CAAXXXX
LAQ-163-XXX-D-T_FORD	RU5T-14F662-CBAXXXX
LAQ-163-XXX-E-T_FORD	RU5T-14F662-CCAXXXX
LAQ-163-XXX-F-T_FORD	RU5T-14F662-CDAXXXX
LAQ-163-XXX-G-T_FORD	RU5T-14F662-CEAXXXX
LAQ-163-XXX-H-T_FORD	RU5T-14F662-CFAXXXX

DRAWING/PART NO. RU5T-14F662-AAA | REV REL | SHT 9

CAD FILE RU5T-14F662-AA-DWG-01/2

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PPAP (Production Part Approval Process) submission

Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

4

Design FMEA

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

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FMEA

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Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

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Process flow diagram

PPAP Manual 2.2.5, Note 1:

"Process flow diagrams for 'families' of parts are acceptable if the new parts have been reviewed for commonality by the organization."

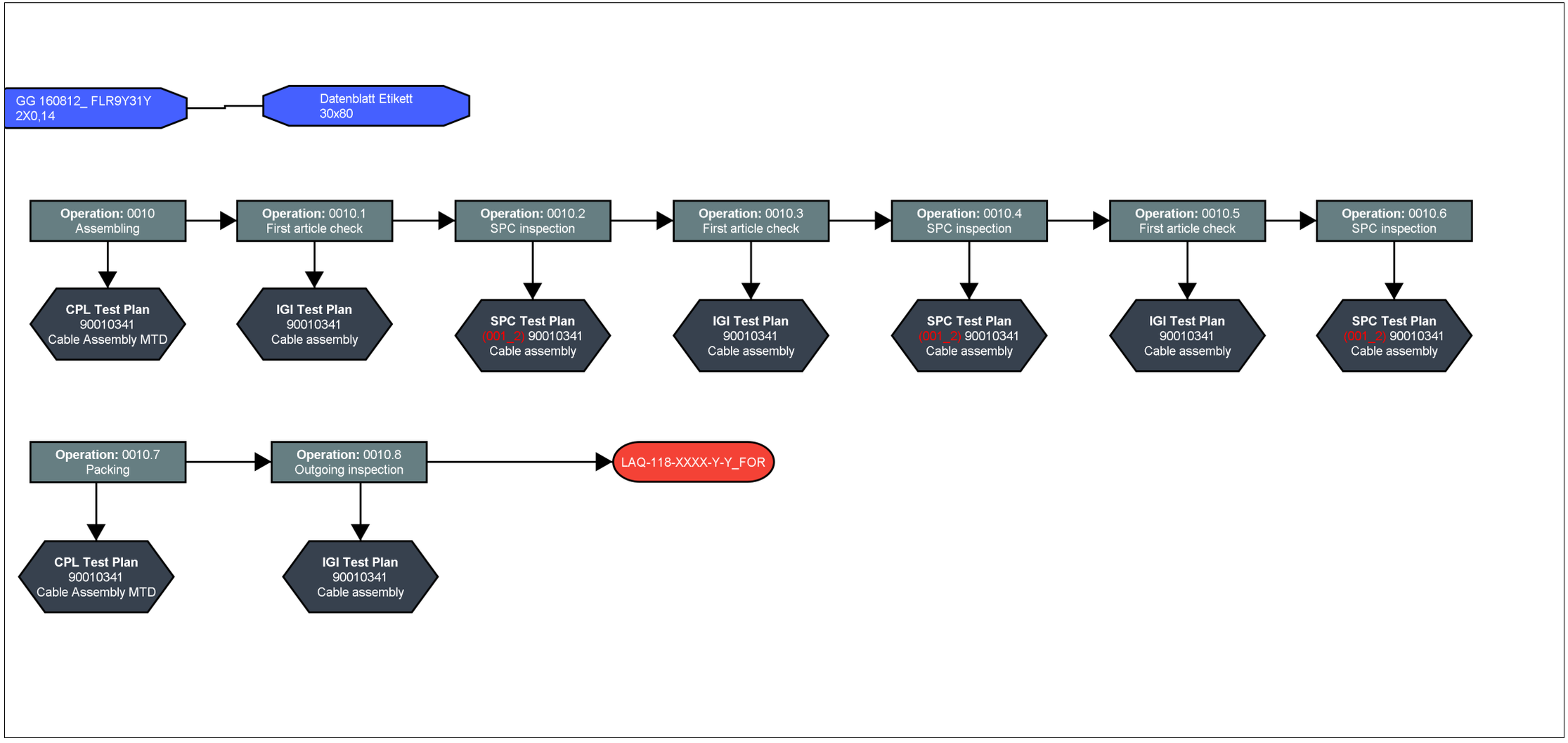
THIS PROCESS FLOW DIAGRAM MAY BE FOR AN ANALOGUE PART WHICH UNDERGOES IDENTICAL PROCESSES TO THE SAMPLED PART.

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

CONTROL PLAN (FLOWCHART)

[ ] Prototype [ ] Pre-Series [X] Series Control Plan No. LAQ-118-XXXX-Y-Y_FORD		Contact Person/Phone A_Eder /	Date of First Validation 25.09.23	Modified on 25.09.23/RCsuka
Part Number/ Last Change Level 90010341/ 001		Core team TCC-PG4	Technical Development of the Customer/ Date (if Required)	
Part Name/ Description Cable Assembly		Supplier/ Plant Approval/ Date	Customer Quality Approval/ Date (if Required)	
Supplier/ Plant Rosenberger	Supplier No. 0	Other Approvals/ Date(if Required)	Other Approvals/ Date(if Required)	



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Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

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Process FMEA

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

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PPAP (Production Part Approval Process) submission

Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

7

Control plan

PPAP Manual 2.2.7, Note 1:

"Control plans for 'families' of parts are acceptable if the new parts have been reviewed for commonality by the organization."

THIS CONTROL PLAN MAY BE FOR AN ANALOGUE PART WHICH UNDERGOES IDENTICAL PROCESSES TO THE SAMPLED PART.

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

Control Plan

Rosenberger

[ ] Prototype [ ] Pre-Series [X] Series Control Plan	LAQ-118-XXXX-Y-Y_FORD / 001	Contact Person/Phone A_Eder	Date of First Validation 25.09.23	Modified on 25.09.23/RCsuka	
Part Number 90010341	Drawing No./ Index LAQ-118-XXXX-Y-Y_FORD / 001	Core team TCC-PG4	Technical Development of the Customer/ Date (if Required)		
Part Name/ Description Cable Assembly		Supplier/ Plant Approval/ Date	Customer Quality Approval/ Date (if Required)		
Supplier/ Plant Rosenberger	Supplier No. 0	Other Approvals/ Date(if Required)	Requalification Interval/ Performed on/ Next Date		

Process/ Part No. Version	Process Name/ Description of Operations	Machine, Instrument Device, Tool	Characteristics No.	Characteristics Product	Characteristics Process	Special Character. Classific.	Methods Product/Process Specification / Tolerances	Methods Evaluation/ Testing System Being Used	Methods Sample	Methods Control Method	Reaction Plan
90010341 Cable Assembly											
0010 CPL 90010341	Assembling	According to working plan	2305	First article check			(RAA00758, RAA00602)	Several	1/batch	CAQ	RFB00723
			2310	Requalification			(According to RAA00750)	Several	RAA00750	RAA00750	RFB00452
			2320		Crimp force monitoring		(According to machine prog.)	Crimp press	100%	automatic inlin crimp force monitoring	automatic bad part handling
			2325	Presence and position			According to machine prog.)	Camera	100%		Automatic bad part handling
			2330	Color Code			(according drawing)	Assembly Robot	100%	inline test	automatic line stop
			2335	Interface dimension			According working plan / drawing)	Assembly Robot	100%	inline measurement	automatic bad part handling
			2340	Position check			(according drawing)	Assembly Robot	100%	inline test	RFB00723

Control Plan

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Process/ Part No. Version	Process Name/ Description of Operations	Machine, Instrument Device, Tool	Characteristics			Special Character. Classific.	Methods				Reaction Plan
			No.	Product	Process		Product/Process Specification / Tolerances	Evaluation/ Testing System Being Used	Sample	Control Method	
			2345	Camera Check			(According to machine prog.)	Assembly Robot	100%	inline test	RFB00723
			2350	Sample check			(RAA00760, RAA00602)	Several	1/batch	CAQ	RFB00723
			2355	Electrical test			(According to machine prog.)	Eletrical tester	100%	Machine program	automatic bad part handling
			2360	Scrap cutting			(According to machine prog.)		100%	automatic inline monitoring	automatic bad part handling
			2370	Last article check			(RAA00602)	Several	1/batch	CAQ	RFB00723
0010.1 WEP 90010341	First article check	Various	2	Visual inspection				Visual inspection	F3	CAQ	RFB00723
			3	Stripping length			8.600 mm +0.30 / -0.30 mm	Pocket microscope	F3	CAQ	RFB00723
			4	Stripping length			8.600 mm +0.30 / -0.30 mm	Pocket microscope	F3	CAQ	RFB00723
			5	Stripping length			2.150 mm +0.25 / -0.25 mm	Pocket microscope	F3	CAQ	RFB00723
			6	Stripping length			2.150 mm +0.25 / -0.25 mm	Pocket microscope	F3	CAQ	RFB00723
			7	micrograph				micrograph laboratory	F1	CAQ	RFB00723
			9	Crimpheight			1.200 mm +0.10 / -0.10 mm	Micrometer	F3	CAQ	RFB00723
			10	Crimpheight			1.200 mm +0.10 / -0.10 mm	Micrometer	F3	CAQ	RFB00723

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Control Plan

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Process/ Part No. Version	Process Name/ Description of Operations	Machine, Instrument Device, Tool	Characteristics			Special Character. Classific.	Methods				Reaction Plan
			No.	Product	Process		Product/Process Specification / Tolerances	Evaluation/ Testing System Being Used	Sample	Control Method	
			11	Connection dimension IL			0.000 mm +0.15 / -0.09 mm	Gauge	F3	CAQ	RFB00723
			12	Connection dimension IL			0.000 mm +0.15 / -0.09 mm	Gauge	F3	CAQ	RFB00723
0010.2 SPC 90010341 001_2	SPC inspection	Various	2	Visual inspection				Magnifier 20x	3/240 Min.	CAQ	RFB00723
			3	Identity check				Various	3/240 Min.	CAQ	RFB00723
			4	B-crimp white			0.640 mm +0.02 / -0.02 mm	Micrometer	3/240 Min.	CAQ	RFB00723
			5	B-crimp green			0.640 mm +0.02 / -0.02 mm	Micrometer	3/240 Min.	CAQ	RFB00723
			7	Crimpheight white			1.200 mm +0.1 / -0.1 mm	Micrometer	3/240 Min.	CAQ	RFB00723
			8	Crimpheight Green			1.200 mm +0.1 / -0.1 mm	Micrometer	3/240 Min.	CAQ	RFB00723
			9	interface dim. center pin white			0.00 mm +0.15 / -0.09 mm	Gauge	3/240 Min.	CAQ	RFB00723
			10	interface dim. center pin green			0.00 mm +0.15 / -0.09 mm	Gauge	3/240 Min.	CAQ	RFB00723
			11	Crimp force monitor				Various	3/240 Min.	CAQ	RFB00723

Control Plan

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Process/ Part No. Version	Process Name/ Description of Operations	Machine, Instrument Device, Tool	Characteristics			Special Character. Classific.	Methods				Reaction Plan
			No.	Product	Process		Product/Process Specification / Tolerances	Evaluation/ Testing System Being Used	Sample	Control Method	
0010.3 WEP 90010341	First article check	Various	2	Visual inspection				Visual inspection	F3	CAQ	RFB00723
			3	Stripping length			8.600 mm +0.30 / -0.30 mm	Pocket microscope	F3	CAQ	RFB00723
			4	Stripping length			8.600 mm +0.30 / -0.30 mm	Pocket microscope	F3	CAQ	RFB00723
			5	Stripping length			2.150 mm +0.25 / -0.25 mm	Pocket microscope	F3	CAQ	RFB00723
			6	Stripping length			2.150 mm +0.25 / -0.25 mm	Pocket microscope	F3	CAQ	RFB00723
			7	micrograph				micrograph laboratory	F1	CAQ	RFB00723
			9	Crimpheight			1.200 mm +0.10 / -0.10 mm	Micrometer	F3	CAQ	RFB00723
			10	Crimpheight			1.200 mm +0.10 / -0.10 mm	Micrometer	F3	CAQ	RFB00723
			11	Connection dimension IL			0.000 mm +0.15 / -0.09 mm	Gauge	F3	CAQ	RFB00723
			12	Connection dimension IL			0.000 mm +0.15 / -0.09 mm	Gauge	F3	CAQ	RFB00723
0010.4 SPC 90010341 001_2	SPC inspection	Various	2	Visual inspection				Magnifier 20x	3/240 Min.	CAQ	RFB00723
			3	Identity check				Various	3/240 Min.	CAQ	RFB00723

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Control Plan

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Process/ Part No. Version	Process Name/ Description of Operations	Machine, Instrument Device, Tool	Characteristics			Special Character. Classific.	Methods				Reaction Plan
			No.	Product	Process		Product/Process Specification / Tolerances	Evaluation/ Testing System Being Used	Sample	Control Method	
			4	B-crimp white			0.640 mm +0.02 / -0.02 mm	Micrometer	3/240 Min.	CAQ	RFB00723
			5	B-crimp green			0.640 mm +0.02 / -0.02 mm	Micrometer	3/240 Min.	CAQ	RFB00723
			7	Crimpheight white			1.200 mm +0.1 / -0.1 mm	Micrometer	3/240 Min.	CAQ	RFB00723
			8	Crimpheight Green			1.200 mm +0.1 / -0.1 mm	Micrometer	3/240 Min.	CAQ	RFB00723
			9	interface dim. center pin white			0.00 mm +0.15 / -0.09 mm	Gauge	3/240 Min.	CAQ	RFB00723
			10	interface dim. center pin green			0.00 mm +0.15 / -0.09 mm	Gauge	3/240 Min.	CAQ	RFB00723
			11	Crimp force monitor				Various	3/240 Min.	CAQ	RFB00723
0010.5 WEP 90010341	First article check	Various	300	Visual inspection				Magnifier 20x	F5	CAQ	RFB00723
			310	Identity check				Caliper	F5	CAQ	RFB00723
			320	Overall length A			6370.000 mm +20 / -20 mm	Ruler	F5	CAQ	RFB00723
			330	Label				Visual inspection	F5	CAQ	RFB00723
			340	Length			60.000 mm +10 / -10 mm	Ruler	F5	CAQ	RFB00723

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Control Plan

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Process/ Part No. Version	Process Name/ Description of Operations	Machine, Instrument Device, Tool	Characteristics			Special Character. Classific.	Methods				Reaction Plan
			No.	Product	Process		Product/Process Specification / Tolerances	Evaluation/ Testing System Being Used	Sample	Control Method	
0010.6 SPC 90010341 001_2	SPC inspection	Various	100	Visual inspection				Magnifier 20x	3/240 Min.	CAQ	RFB00723
			110	Identity check				Various	3/240 Min.	CAQ	RFB00723
			120	Total length A			6370.000 mm +20 / -20 mm	Ruler	3/240 Min.	CAQ	RFB00723
			140	Label distance			60.000 mm +10 / -10 mm	Ruler	3/240 Min.	CAQ	RFB00723
0010.7 CPL 90010341	Packing	According to working plan	1610		Process parameters		(According to working plan)	Several	1/batch		RFB00723
			1620	Ident check			(According to working plan)	Visual	RAA00774		RFB00723
			1630	Visual inspection			(According to RAA00774)	Visual	100%		RFB00723
0010.8 WEP 90010341	Outgoing inspection	Various	400	Visual inspection				Magnifier 20x	WA_Sta	CAQ	RFB00723
			410	Identity check				Caliper	WA_Id-Kr	CAQ	RFB00723
			420	Overall length A			6370.000 mm +20 / -20 mm	Ruler	ISO3951 0.04 S4	CAQ	RFB00723
			430	Label				Visual inspection	WA_Id-Kr	CAQ	RFB00723
			440	Length			60.000 mm +10 / -10 mm	Ruler	ISO3951 0.4 S4 ISO3951	CAQ	RFB00723

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Control Plan

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Process/ Part No. Version	Process Name/ Description of Operations	Machine, Instrument Device, Tool	Characteristics			Special Character. Classific.	Methods				Reaction Plan
			No.	Product	Process		Product/Process Specification / Tolerances	Evaluation/ Testing System Being Used	Sample	Control Method	
4293 FLR9Y31Y 2x0,14sn-A / 14											
10 WEP 4293	Incoming Inspection	Various	00	visual inspection				Magnifier 20x	F5	CAQ	RFB00452
			05	identity check				Various	F5	CAQ	RFB00452
			30	diameter			0.85 mm +0.03 / -0.03 mm	Micrometer	F5	CAQ	RFB00452
			35	diameter			3.2 mm +0.1 / -0.1 mm	Micrometer	F5	CAQ	RFB00452
3148 Etiketten aus UPM PP-Folie											
10 WEP 3148	Incoming Inspection	Various	0	Visual inspection				Various	F5	CAQ	RFB00452

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PPAP (Production Part Approval Process) submission

Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

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MSA (Measurement System Analysis)

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

Rosenberger

Calibration of inspection and test equipment

According to IATF 16949 7.1.5.3.2, if an accredited laboratory exists but is very remote and/or expensive and the inspection or test equipment manufacturer is nearby and available can they be used even if they are not accredited to ISO/IEC 17025.

The inspection or test equipment manufacturer developed the methodology to maintain and adjust the equipment to meet calibration requirements as part of the design and manufacture of the inspection or test equipment. Therefore, the original equipment manufacturer of the inspection and test equipment is qualified to calibrate the equipment they designed and manufactured.

How to interpret the MSA Compendium of Results

The MSA Compendium of Results is based on the AIAG 'MSA' manual. It is a Family-MSA for the inspection equipment used in our production processes, but not all of them are used for any specific automotive product.

The GRR% values are calculated in relation to the total width of tolerance:

The MSA is a worst case analysis. The total **tolerance space** for the MSA-calculation is used to show that the measurement systems could even be acceptable for an extreme tolerance situation under certain circumstances as explained in the MSA manual.

We use small tolerance spaces for significant characteristics in our internal production - and for supplied parts - so that we can ensure that we meet the larger tolerances of our customers' specifications on the finished products.

A "worst case" tolerance space of e.g. ±0.01mm for a linear dimension would translate to approximately ±0.05mm on the technical data sheet for our finished product.

In the calculation formula, GRR% and the total tolerance are inversely proportional.

Therefore when the total tolerance space rises from 0.02mm (±0.01 = "worst case" from the MSA) to 0.10mm (±0.05 = real tolerance space used on the drawing), the GRR% is reduced from e.g. 29.83% to 5.97% and so the GRR% is okay and no action is required.

Example:

Inspection Equipment: **Mitutoyo dial gauge**	**MSA Example** "Worst case"	**Real dimension** on the Rosenberger Technical data sheet
Dimension /Measuring range	7-11mm	8mm
Tolerance	±0.01mm	±0.05mm
Total tolerance space	0.02mm	0.10mm
Gage R&R / GRR	**29.83%**	**5.97%**

MSA (R&R)
Compendium of Results

Rosenberger

Measuring range in mm		0 - 3	3 - 7	7 - 11	11 - 17	17 - 22	22 - 30	30 - 40	40 - 50	Tolerance space
Dial gauge	EV			27,77%	26,00%					0,02 mm
Sylvac	AV			10,91%	14,41%					
three-point measuring head	**GRR**			**29,83%**	**29,72%**					
Dial gauge	EV		27,18%	24,81%	24,48%					0,02 mm
Mitutoyo	AV		10,96%	16,11%	15,35%					
three-point measuring head	**GRR**		**29,30%**	**29,59%**	**28,90%**					
Dial gauge	EV	26,00%	20,56%	27,77%	27,77%					0,02 mm
Sylvac	AV	8,73%	21,65%	9,75%	10,33%					
two-point measuring head	**GRR**	**27,42%**	**29,85%**	**29,43%**	**29,63%**					
Dial gauge	EV	27,77%	21,86%	29,54%	26,59%					0,02 mm
Mitutoyo	AV	6,66%	11,90%	2,01%	13,82%					
two-point measuring head	**GRR**	**28,56%**	**24,89%**	**29,61%**	**29,96%**					
Dial gauge	EV	28,36%		26,59%	24,16%	28,36%	26,59%	28,95%	26,00%	0,02 mm
Mitutoyo	AV	9,69%		9,85%	16,09%	0,75%	13,82%	7,15%	9,32%	
	GRR	**29,97%**		**28,35%**	**29,03%**	**28,37%**	**29,96%**	**29,82%**	**27,62%**	
Dial gauge	EV	26,59%	27,18%	28,36%	20,09%	25,40%	25,40%	24,81%	21,86%	0,02 mm
Mitutoyo	AV	6,16%	9,80%	8,48%	22,19%	4,97%	6,33%	4,35%	7,36%	
old version	**GRR**	**27,29%**	**28,89%**	**29,60%**	**29,93%**	**25,89%**	**26,18%**	**25,19%**	**23,06%**	
Dial gauge	EV	28,95%		27,18%	26,00%		24,81%			0,02 mm
Mitutoyo	AV	2,27%		8,61%	10,48%		13,38%			
	GRR	**29,04%**		**28,51%**	**28,03%**		**28,19%**			
Dial gauge low perssure	EV	23,63%	26,00%	27,77%	28,95%					0,02 mm
Sylvac	AV	10,67%	6,25%	5,28%	2,27%					
groove measuring head	**GRR**	**25,93%**	**26,74%**	**28,27%**	**29,04%**					
Dial gauge low perssure	EV		26,59%	28,36%	26,59%	24,81%				0,02 mm
Sylvac	AV		9,85%	0,75%	9,85%	16,66%				
	GRR		**28,35%**	**28,37%**	**28,35%**	**29,89%**				
Micrometer	EV	23,63%		24,81%		23,63%	29,54%			0,02 mm
Mitutoyo	AV	15,63%		15,57%		2,96%	3,21%			
	GRR	**28,33%**		**29,29%**		**23,82%**	**29,71%**			
Micrometer	EV	21,27%		23,04%	27,18%		25,40%			0,02 mm
Mitutoyo	AV	19,77%		13,48%	9,80%		14,44%			
old version	**GRR**	**29,04%**		**26,70%**	**28,89%**		**29,22%**			
Micrometer	EV	21,27%		26,59%	24,81%	27,18%	26,00%			0,02 mm
Mitutoyo	AV	15,74%		11,75%	8,85%	11,53%	2,20%			
groove measuring head	**GRR**	**26,46%**		**29,07%**	**26,34%**	**29,52%**	**26,09%**			
Micrometer	EV						18,31%		19,50%	0,02 mm
Mitutoyo	AV						16,94%		15,82%	
old version	**GRR**						**24,94%**		**25,11%**	
Micrometer	EV						21,86%	27,77%		0,02 mm
Mitutoyo	AV						6,14%	4,53%		
thread measuring head	**GRR**						**22,71%**	**28,14%**		
Micrometer	EV		26,00%			27,18%				0,02 mm
Mitutoyo	AV		7,52%			7,38%				
thread measuring head	**GRR**		**27,06%**			**28,16%**				
Micrometer analog	EV		14,18%			29,54%				0,02 mm
Mitutoyo	AV		7,96%			3,21%				
groove measuring head	**GRR**		**16,26%**			**29,71%**				
Micrometer analog	EV						13,23%	28,36		0,02 mm
Mitutoyo	AV						13,60%	6,58		
	GRR						**18,97%**	**29,11**		
Micrometer	EV	9,30%		9,30%		8,10%	6,60%			0,02 mm
Mitutoyo	AV	2,40%		2,40%		3,90%	7,20%			
QuantuMike	**GRR**	**9,60%**		**9,60%**		**9,00%**	**9,90%**			

MSA (R&R)
Compendium of Results

Rosenberger

Measuring range in mm		0 - 3	3 - 7	7 - 11	11 - 17	17 - 22	22 - 30	30 - 40	40 - 50	Tolerance space
Caliper gauge Mitutoyo	EV			9,45%			9,45%		23,63%	0,05 mm
	AV			10,32%			27,15%		14,00%	
	GRR			**13,99%**			**28,75%**		**27,47%**	
Inside calliper analog Intertest	EV		18,91%	26,00%						0,05 mm
	AV		21,70%	12,75%						
	GRR		**28,78%**	**28,95%**						
Lever gauge analog Mahr	EV	26,00%								0,05 mm
	AV	6,89%								
	GRR	**26,89%**								
Measuring range in mm		0 - 60	60 - 120	120 - 180	180 - 240	240 - 300	300 - 380	380 - 480	480 - 550	Tolerance space
Caliper gauge analog Mitutoyo	EV	26,00%	27,18%	26,00%						0,05 mm
	AV	4,11%	9,21%	6,89%						
	GRR	**26,32%**	**28,70%**	**26,89%**						
Caliper gauge analog Mitutoyo	EV		20,09%		24,81%		24,81%			0,05 mm
	AV		8,67%		10,58%		2,62%			
	GRR		**21,88%**		**26,97%**		**24,95%**			
Caliper gauge analog Mitutoyo	EV		23,63%				22,45%	26,00%		0,05 mm
	AV		7,17%				9,63%	10,48%		
	GRR		**24,70%**				**24,43%**	**28,03%**		
Caliper gauge analog Mitutoyo	EV		28,36%				24,81%	23,63%		0,05 mm
	AV		5,18%				9,49%	12,90%		
	GRR		**28,83%**				**26,55%**	**26,92%**		
Measuring range in mm		0 - 15	15 - 30	30 - 45	45 - 60	60 - 80	80 - 120	120 - 170	170 - 200	Tolerance space
Micrometer analog Mitutoyo	EV	27,57%	23,63%							0,03 mm
	AV	4,83%	16,83%							
	GRR	**27,99%**	**29,05%**							
Micrometer analog Mitutoyo	EV		17,72%		17,72%					0,03 mm
	AV		6,18%		24,20%					
	GRR		**18,77%**		**29,99%**					
Micrometer analog Mitutoyo	EV				13,75%	27,57%				0,03 mm
	AV				4,59%	11,12%				
	GRR				**14,53%**	**29,73%**				
Micrometer analog Mitutoyo	EV					27,57%				0,03 mm
	AV					9,17%				
	GRR					**29,06%**				
Micrometer analog Mitutoyo	EV						25,60%			0,03 mm
	AV						11,28%			
	GRR						**27,97%**			
Micrometer analog Mitutoyo	EV							27,57%		0,03 mm
	AV							7,12%		
	GRR							**28,47%**		
Micrometer analog Mitutoyo	EV							23,63%		0,03 mm
	AV							5,48%		
	GRR							**24,26%**		
Micrometer analog Mitutoyo	EV								25,60%	0,03 mm
	AV								13,14%	
	GRR								**28,78%**	
Micrometer analog Mitutoyo	EV						23,63%	25,60%	25,99%	0,03 mm
	AV						15,09%	11,28%	5,01%	
	GRR						**28,04%**	**27,97%**	**27,05%**	

MSA (R&R)
Compendium of Results

Rosenberger

Measuring range in mm		200 - 235	235 - 270	270 - 310	310 - 340	340 - 400	400 - 430	430 - 465	465 - 500	Tolerance space
Micrometer analog	EV	27,57%								0,03 mm
Mitutoyo	AV	4,83%								
	GRR	**27,99%**								
Micrometer analog	EV	25,60%		25,60%						0,03 mm
Mitutoyo	AV	14,98%		13,14%						
	GRR	**29,66%**		**28,78%**						
Micrometer analog	EV				25,60%					0,03 mm
Mitutoyo	AV				11,28%					
	GRR				**27,97%**					
Micrometer analog	EV							27,57%		0,03 mm
Mitutoyo	AV							9,17%		
	GRR							**29,06%**		
Measuring range in mm		0 - 15	15 - 30	30 - 45	50 - 60	60 - 80	80 - 120	120 - 170	170 - 200	Tolerance space
Micrometer analog	EV		26,50%							0,03 mm
Mitutoyo	AV		12,80%							
groove measuring head	**GRR**		**29,70%**							
Micrometer analog	EV				17,73%					0,03 mm
Mitutoyo	AV				6,18%					
groove measuring head	**GRR**				**18,77%**					
Micrometer analog	EV						25,60%			0,03 mm
Mitutoyo	AV						9,36%			
groove measuring head	**GRR**						**27,26%**			
Measuring range in mm		0 - 15 mm	15- 30 mm	30 -50 mm	50 -95 mm	100 - 150 mm	150-200 mm			Tolerance space
Three-point measuring	EV			27,77%						0,02 mm
instrument	AV			2,72%						
Mitutoyo	**GRR**			**27,90%**						
Setting ring gauge	EV		ok		ok	ok				0,005 mm
Hoffmann	AV		ok		ok	ok				
	GRR		**ok**		**ok**	**ok**				
Gap gauge	EV		ok	ok	ok					0,005 mm
Hoffmann	AV		ok	ok	ok					
	GRR		**ok**	**ok**	**ok**					
Plug gauge	EV	ok	ok	ok						0,02 mm
Hoffmann	AV	ok	ok	ok						
	GRR	**ok**	**ok**	**ok**						
Profile Projector	EV	27,77%	27,77%							0,02 mm
Mitutoyo	AV	1,29%	5,28%							
	GRR	**27,80%**	**28,27%**							
Profile Projector	EV	5,33%								0.04 mm
Hoffmann MM1	AV	3,20%								
	GRR	**6,22%**								
Measuring range in µm		0 - 10								Tolerance space
Nickelscope analog	EV	16,25%								4 µm
Fischer	AV	23,62%								
analog	**GRR**	**28,66%**								
Nickelsocpe	EV	18,61%								4 µm
Fischer	AV	21,18%								
digital	**GRR**	**28,19%**								
X-Ray	EV	12,69%								0,5 µm
Fischer	AV	0,00%								
Gold	**GRR**	**12,69%**								
X-Ray	EV	18,53%								3 µm
Fischer	AV	0,00%								
Silver	**GRR**	**18,35%**								

MSA (R&R)
Compendium of Results

Rosenberger

Measuring range		M1 - M10	M10 - M15	M15 - M25	M25 - M50					Tolerance space
Plug thread gauge Hoffmann	EV	ok		ok	ok					not applicable
	AV	ok		ok	ok					
	GRR	**ok**		**ok**	**ok**					
Measuring range in mm		0 - 5	5 - 10	10 - 25	25 - 50	50 - 100	100 - 500	100 - 500		Tolerance space
Measuring machine Zeiss Prismo	EV	23,50%	21,20%	22,38%			3,54%			0,01 mm
	AV	0,00%	0,00%	0,00%			1,99%			
	GRR	23,50%	21,20%	22,38%			**4,07%**			
Measuring machine Zeiss MC 850	EV						14,18%			0,01 mm
	AV						7,96%			
	GRR						**16,26%**			
Measuring machine Zeiss Contura G2	EV			10,91%						0,02 mm
	AV									
	GRR			10,91%						
Measuring machine Mitutoyo QuickVision	EV	3,85%	8,39%							0,04 mm
	AV									
	GRR	**3,85%**	**8,39%**							
Measuring range in mm		0 - 15	15 - 30	30 - 50	50 - 95	100 - 150	150 - 200			Tolerance space
Depth gauge	EV		23,63%		15,75%					0,03 mm
	AV		9,53%		6,53%					
	GRR		**25,48%**		**16,99%**					
2Point dial gauge	EV				23,63%					0,02 mm
	AV				2,96%					
	GRR				**23,82%**					
Measuring range in mm		0-2								Tolerance space
Camera System Rosenberger	EV	9,19%								0,04 mm
	AV	0,68%								
	GRR	**9,20%**								
Camera System Ziemann & Urban	EV			4,58%						0.6 mm
	AV			1,80%						
	GRR			**4,92%**						
Camera System Ziemann & Urban 7XM0_137G1	EV	9,98%								0,257
	AV									
	GRR	**9,98%**								
Camera System Köstler 2	EV	14,57%								0.2 mm
	AV									
	GRR	**14,57%**								
Gauge for connector type		circuit board								Tolerance space
Clamp-on gauge Rosenberger	EV	ok								not applicable
	AV	ok								
	GRR	**ok**								
HV Products		0-6	6-10							Tolerance space
Measuring machine Zeiss Prismo	EV	4,55%	1,64%							0.2mm
	AV									
	GRR	**4,55%**	**1,64%**							

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Acc. to AIAG PPAP 4th edition

PPAP (Production Part Approval Process) submission

Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

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Dimensional results

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

Rosenberger

Production Part Approval - Dimensional Results

ORGANIZATION: Rosenberger Automotive Cabling KFT SUPPLIER/VENDOR CODE: 52-542-4391 INSPECTION FACILITY: RHU4	PART NUMBER: MU5T-14H0007-EAA2040 PART NAME: Cable Assembly DESIGN RECORD CHANGE LEVEL: 001 ENGINEERING CHANGE DOCUMENTS:

ITEM	DIMENSIONAL/SPECIFICATION	SPECIFICATION/ LIMITS	TEST DATE	QTY. TESTED	ORGANIZATION MEASUREMENT RESULTS (DATA)	OK	NOT OK
	Visual Check						
10	length 2040.000	+30.000/-0.000 mm	02.02.24	5	2062.000;2062.000;2062.000;2062.000;	X	
					2062.000		
20	Label Measurement	±10.000 mm	02.02.24	5	60.000;60.000;60.000;60.000;60.000	X	
	60.000						

Blanket statements of conformance are unacceptable for any test results.

SIGNATURE	TITLE	DATE
Monika Major	QM QPL	02.02.24

March 2006 CFG-1003

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PPAP (Production Part Approval Process) submission

Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

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Material, performance test results

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

DaimlerChrysler Ford GM

Production Part Approval
Performance Test Results

ORGANIZATION: RAC Kft. / Hungary	PART NUMBER: MU5T-14H007-EAA2040 - 90010406
SUPPLIER/VENDOR CODE: 52-542-4391	PART NAME: CABLE ASSEMBLY
NAME of LABORATORY: RAC Kft. / Hungary	DESIGN RECORD CHANGE LEVEL: AELE E 13777777550 / 21.11.2022
*CUSTOMER SPECIFIED SUPPLIER/VENDOR CODE:	ENGINEERING CHANGE DOCUMENTS: n/a
*If source approval is req'd, include the Supplier (Source) & Customer assigned code.	

ITEM	TEST SPECIFICATION / REV / DATE		SPECIFICATION / LIMITS		TEST DATE	QTY. TESTED	SUPPLIER TEST RESULTS (DATA) / TEST CONDITIONS						OK	NOT OK
3	Electrical tests	acc. to RN_030-01			17.11.2023	5	passed	passed	passed	passed	passed		X	

Blanket statements of conformance are unacceptable for any test results.

SIGNATURE	TITLE	DATE
i. A. Mónika Major	Quality Engineer	17.11.2023

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PPAP (Production Part Approval Process) submission

Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

11

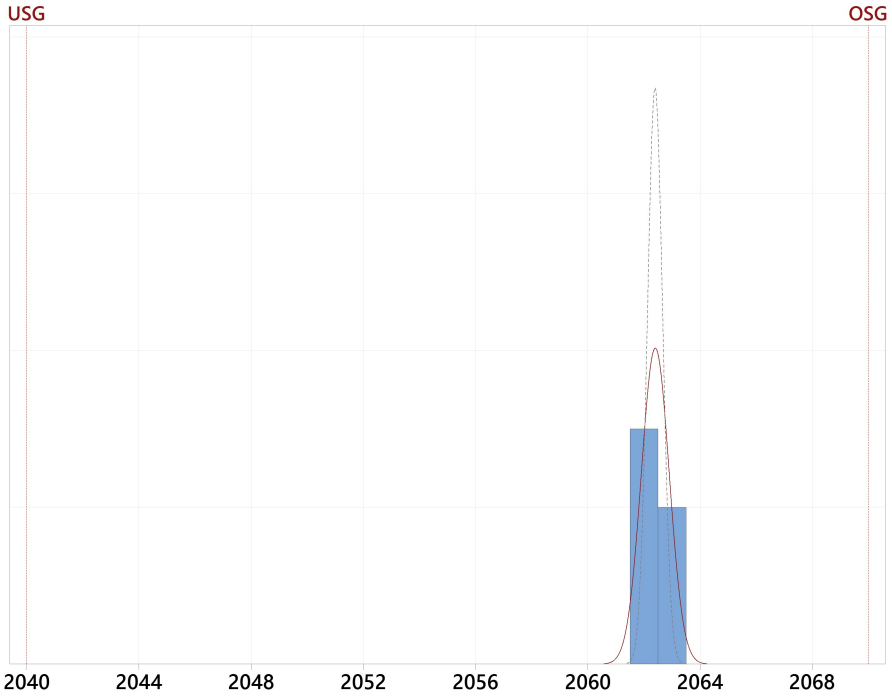
Initial process studies

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

Prozessfähigkeitsanalyse für 2040/+30
Prozessleistungsbericht

Histogramm der Prozessfähigkeit
Liegen die Daten innerhalb der Grenzwerte?



Die Gesamtprozessfähigkeit ist das, was der Kunde wahrnimmt.

Die potenzielle Prozessfähigkeit (innerhalb) könnte erzielt werden, wenn Shifts und Drifts im Prozess beseitigt würden.

Prozesscharakterisierung

Gesamt N	50
Teilgruppengröße	1
Mittelwert	2062,4
Standardabweichung (gesamt)	0,49487
Standardabweichung (innerhalb)	0,27139

Prozessfähigkeitsstatistiken

Gesamtprozessfähigkeit	
Pp	10,10
Ppk	5,12
Z.Bench	*
% auß. Spez. (beobachtet)	0,00
% auß. Spez. (erwartet)	0,00
PPM (DPMO) (beobachtet)	0
PPM (DPMO) (erwartet)	0
Potenziell (innerhalb)	
Cp	18,42
Cpk	9,33
Z.Bench	*
% auß. Spez. (erwartet)	0,00
PPM (DPMO) (erwartet)	0

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Automotive Industry Action Group

Acc. to AIAG PPAP 4th edition

PPAP (Production Part Approval Process) submission

Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

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Qualified laboratory documentation

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

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Certificates

Die aktuellen Versionen unserer Zertifikate (z.B. Qualität, Umwelt, Energie, Logistik, Luft- u. Raumfahrt & Labor Akkreditierungen usw.) sind zu finden unter
https://www.rosenberger.com/de/downloads/zertifikate.php

The up-to-date versions of our certificates (e.g. Quality, Environment, Energy, Logistic, Space & Laboratory Accreditations etc.) can be found at
https://www.rosenberger.com/en/downloads/certificates.php

Product Compliance

Informationen hierzu (z.B. REACH, RoHS, Konfliktmineralien usw.) finden Sie auf unserer Seite:
https://www.rosenberger.com/de/company/quality/compliance.php

For product compliance information (e.g. REACH, RoHS, Conflict Minerals etc.) please visit
https://www.rosenberger.com/en/company/quality/compliance.php

U_08 Tests in the laboratory

Content

1 Purpose

This process instruction describes the preliminary planning of tests, the acceptance of test requests and the carrying out of tests in the internal laboratory of the company Rosenberger Hochfrequenztechnik GmbH & Co. KG. Furthermore the assignment of tests to accredited external laboratories and the coordination with the applicant are defined.

2 Scope of application

This process instruction applies to the laboratory department and all test applicants within the Rosenberger Hochfrequenztechnik GmbH & Co. KG.

3 Responsibilities and competencies

The head of the laboratory is responsible for the implementation of this procedural requirement. In the organisation chart the command structure is visible.

4 Laboratory

4.1 Scope

The laboratory department of Rosenberger Hochfrequenztechnik GmbH & Co. KG operates equipment for mechanical and electrical testing, environmental simulation, material analysis, high current and high frequency testing. The laboratory considers itself as a service provider inside the company and supports the business areas (BA) regarding to development, design and complaint investigation.

The laboratory ensures that the required technical properties of Rosenberger products are proven. In order to meet this demand the laboratory staffed qualified employees, irrespective of other responsibilities.

4.2 Preliminary planning

To initiate a preliminary planning of qualifications in the Laboratory the quantity, the part number (including index) and variants of the test samples have to be documented as well as the date of the approximately delivery. Only then a timetable for the testing processes can be created. For the planning and establishment of the test plan at least 10 working days are calculated.

If the test samples are not delivered in the laboratory within two weeks before the requested test starts the planned resources can be re-assigned. The affected test will scheduled at a later date.

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Records of compliance with customer-specific requirements

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

Rosenberger

Certificates

Die aktuellen Versionen unserer Zertifikate (z.B. Qualität, Umwelt, Energie, Logistik, Luft- u. Raumfahrt & Labor Akkreditierungen usw.) sind zu finden unter
https://www.rosenberger.com/de/downloads/zertifikate.php

The up-to-date versions of our certificates (e.g. Quality, Environment, Energy, Logistic, Space & Laboratory Accreditations etc.) can be found at
https://www.rosenberger.com/en/downloads/certificates.php

Product Compliance

Informationen hierzu (z.B. REACH, RoHS, Konfliktmineralien usw.) finden Sie auf unserer Seite:
https://www.rosenberger.com/de/company/quality/compliance.php

For product compliance information (e.g. REACH, RoHS, Conflict Minerals etc.) please visit
https://www.rosenberger.com/en/company/quality/compliance.php

Product Compliance Anforderungen
Product Compliance Requirements

1. Zweck

Rosenberger beliefert die Industrie mit Produkten der Hochfrequenztechnik und der Fiberoptik und zählt damit weltweit zu den besten Unternehmen der Branche. Grundlage dieses Erfolgs ist, dass die Ansprüche der Kunden an Qualität, Zuverlässigkeit, Schnelligkeit und Preis richtig verstanden und mit Erfindungsgeist, persönlichem Einsatz, wirtschaftlichem Augenmaß und technischem Können in überlegene Produkte umgesetzt werden.
Diese Werknorm dient der Umsetzung und Vereinheitlichung von gesetzlichen Anforderungen bzw. Kundenanforderungen hinsichtlich Product Compliance.

Purpose

Rosenberger supplies the industry with products of high-frequency technology and fibre optics and ranks among the best companies worldwide in this sector. Fundamental to this success is that the requirements of the customers concerning quality, reliability, speed and price are exactly realised, and using invention, personal commitment, economic visual judgement and technical knowledge, convert these into superior products.
This Rosenberger Standard serves to implement and unify legal and customer requirements regarding product compliance.

2. Anwendungsbereich

Diese Norm gilt für alle Business Areas der Rosenberger Hochfrequenztechnik am Standort Fridolfing.

Scope

This standard applies to all business areas of Rosenberger Hochfrequenztechnik at Fridolfing site.

3. Mitgeltende Unterlagen

Richtlinie 2011/65/EU*
Richtlinie 2000/53/EG*
Richtlinie 94/62/EG*
Richtlinie 2006/66/EG*
Richtlinie 2012/19/EU*

Verordnung (EG) Nr. 1907/2006*
Verordnung (EG) Nr. 850/2004*
Verordnung (EG) Nr. 1005/2009*
Verordnung (EU) Nr. 528/2012*

*Es gilt jeweils die zum Lieferzeitpunkt gültige Version inklusive aller Änderungen und Erweiterungen.

Administrative Measures for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products (“China RoHS II”)
SJ/T 11364:2014

Other Applicable Documents

*Directive 2011/65/EU**
*Directive 2000/53/EC**
*Directive 94/62/EC**
*Directive 2006/66/EC**
*Directive 2012/19/EU**

*Regulation (EC) No. 1907/2006**
*Regulation (EC) No. 850/2004**
*Regulation (EC) No. 1005/2009**
*Regulation (EU) No. 528/2012**

**The version valid at the date of delivery including all changes and amendments applies.*

Administrative Measures for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products (“China RoHS II”)
SJ/T 11364:2014

Product Compliance Anforderungen
Product Compliance Requirements

4. Begriffe

„Erzeugnis“
Es gilt die Definition entsprechend Verordnung (EG) Nr. 1907/2006 (REACH), Artikel 3(3):

Erzeugnis: Gegenstand, der bei der Herstellung eine spezifische Form, Oberfläche oder Gestalt erhält, die in größerem Maße als die chemische Zusammensetzung seine Funktion bestimmt;

„Stoff“
Es gilt die Definition entsprechend Verordnung (EG) Nr. 1907/2006 (REACH), Artikel 3(1):

Stoff: chemisches Element und seine Verbindungen in natürlicher Form oder gewonnen durch ein Herstellungsverfahren, einschließlich der zur Wahrung seiner Stabilität notwendigen Zusatzstoffe und der durch das angewandte Verfahren bedingten Verunreinigungen, aber mit Ausnahme von Lösungsmitteln, die von dem Stoff ohne Beeinträchtigung seiner Stabilität und ohne Änderung seiner Zusammensetzung abgetrennt werden können;

Terms

„Article“
The definition of Regulation (EU) No. 1907/2006 (REACH), Article 3(3) applies:

article: means an object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition;

The definition of Regulation (EU) No. 1907/2006 (REACH), Article 3(1) applies:

substance: means a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition;

5. Anforderungen

Alle gelieferten Erzeugnisse und Stoffe, die in Rosenberger Produkten verbleiben, müssen die Anforderungen dieser Norm einhalten. Für zugekaufte Erzeugnisse und Stoffe, die nicht in Rosenberger Produkten verbleiben, z.B. Möbel zur Büroausstattung oder Produktionsmaschinen, muss diese Norm nicht angewendet werden.
Abweichungen von den Anforderungen dieser Norm müssen vor der Lieferung an Rosenberger gemeldet werden. Nicht-konforme Produkte dürfen nur nach vorheriger schriftlicher Genehmigung durch Rosenberger geliefert werden. Diese Genehmigung muss von product.compliance@rosenberger.com angefordert werden.
Der Lieferant ist verpflichtet sich selbstständig über Änderungen der gesetzlichen Anforderungen zu informieren und sein Wissen hierzu aktuell zu halten.
Der Lieferant muss alle notwendigen Maßnahmen in seiner eigenen Lieferkette ergreifen um die Einhaltung der Anforderungen sicherzustellen.

Requirements

All supplied articles and substances that remain in Rosenberger products have to fulfil the requirements of this standard. This standard is not applied to purchased articles and substances that do not remain in Rosenberger products, e.g. furniture or production machines. ***Deviations from the requirements of this standard have to be named to Rosenberger prior to delivery. Not conforming products may be delivered only after written authorisation of Rosenberger. This authorisation has to be requested from*** *product.compliance@rosenberger.com Supplier is obliged to keep himself informed about changes of legal requirements and to keep his knowledge of these requirements up to date. Supplier has to take all necessary measures in its own supply chain to ensure fulfilment of the requirements.*

6. Beschränkte Stoffe

Die für Rosenberger relevanten weltweiten gesetzlichen Stoffbeschränkungen sollen für alle gelieferten direkten Erzeugnisse und Stoffe erfüllt sein.

Regel 1:
Gelieferte Erzeugnisse und Stoffe dürfen keine verbotenen Stoffe (P) (P=Prohibited) entsprechend der aktuellen Version der Global Automotive Declarable Substance List (GADSL) über den dort angegebenen bzw. den gesetzlichen Grenzwerten enthalten.
Ausnahmen entsprechend GADSL oder den gesetzlichen Vorgaben sind zulässig.

Die GADSL ist kostenfrei abrufbar unter: https://www.gadsl.org/
Der Lieferant ist verpflichtet sich selbstständig über Änderungen in der GADSL zu informieren.

Regel 2:
Verpackungen müssen die Inhaltsstoff-Anforderungen der Richtlinie 94/62/EG einhalten.

Restricted Substances

Worldwide legal substance restrictions relevant for Rosenberger shall be fulfilled for all supplied direct articles and substances.

Rule 1:
Supplied articles and substances may not contain prohibited substances (P) (P=Prohibited) according to the current version of Global Automotive Declarable Substance List (GADSL) above the threshold named there or the legal threshold.
Exemptions according to GADSL or legal definitions are permitted.

GADSL is available free of charge at: https://www.gadsl.org/
Supplier is obliged to inform himself about changes of GADSL.

Rule 2:
Packaging has to comply with the substance requirements of Directive 94/62/EC.

7. Gesetzliche Vorgaben zu beschränkten und deklarationspflichtigen Stoffen

Die Vorgaben in diesem Kapitel erläutern die Regeln aus Kapitel 6 und definieren Vorgaben zu deklarationspflichtigen Stoffen und zur Kennzeichnung. Die Regeln 1 und 2 beschränken sich nicht zwangsläufig auf die in diesem Kapitel genannten Gesetze und Normen und werden durch dieses Kapitel nicht eingeschränkt.

Legal Requirements for Restricted and Declarable Substances

The definitions in this chapter explain the rules of chapter 6 and define requirements for declarable substances and for the marking. Rules 1 and 2 are not necessarily completely fulfilled by the laws and standards named in this chapter and are not limited by this chapter.

7.1 RoHS – Richtlinie 2011/65/EU

Richtlinie 2011/65/EU beschränkt die Verwendung bestimmter Stoffe in Elektro- und Elektronikgeräten. Die Liste der beschränkten Stoffe ist in Anhang II der Richtlinie gegeben. Sie wurde zuletzt durch die delegierte Richtlinie (EU) 2015/863 geändert.

Anforderungen
Da die Stoffbeschränkungen sich jeweils auf den homogenen Werkstoff beziehen, dürfen keine gelieferten direkten Erzeugnisse und Stoffe beschränkte Stoffe entsprechend Anhang II der Richtlinie über dem dort angegeben Grenzwert enthalten. Dies gilt unabhängig davon ob es sich bei dem Produkt um ein fertiges

Elektro- und Elektronikgerät im Sinne der Richtlinie handelt oder nicht. Die Anwendung von Ausnahmen aus den Anhängen III und IV der Richtlinie ist zulässig. Ausnahmen müssen an Rosenberger mitgeteilt werden. Mögliche Kommunikationsformen sind:

- E-Mail an product.compliance@rosenberger.com
- BOMCheck
- iPoint Supplier Entry Portal
- Für Lieferanten, die IMDS Daten senden gilt Anhang I

RoHS – Directive 2011/65/EU

Directive 2011/65/EU restricts the use of certain hazardous substances in electrical and electronic equipment. The list of restricted substances is defined in annex II of the directive. It was most recently changed by Delegated Directive (EU) 2015/863.

Requirements

As the substance restrictions apply to the homogenous material no delivered direct article or substance may contain restricted substances of annex II of the directive above the threshold defined therein. This applies independent of whether the product is finished electrical and electronic equipment according to the directive or not. The application of exemptions of annexes III and IV of the directive is permitted. Exemptions have to be named to Rosenberger. Possible forms of communication are:

- *Email to product.compliance@rosenberger.com*
- *BOMCheck*
- *iPoint Supplier Entry Portal*
- *For suppliers that send IMDS data annex I applies*

7.2 ELV – Richtlinie 2000/53/EG

Richtlinie 2000/53/EG beschränkt die Verwendung bestimmter Stoffe in Fahrzeugen. Die Liste der beschränkten Stoffe ist in Artikel 4 in Verbindung mit Anhang II der Richtlinie gegeben.

Anforderungen

Die ELV-Richtlinie wird für alle Bauteile und Werkstoffe angewendet, die in Fahrzeugen verwendet werden. Für diese erfolgt die Kommunikation zu Inhaltsstoffen über IMDS entsprechend des Anhangs dieser Norm.

ELV – Directive 2000/53/EC

Directive 2000/53/EC restricts the use of certain hazardous substances in vehicles. The list of restricted substances is given in article 4 in combination with annex II of the directive.

Requirements

ELV-Directive applies to all parts and materials that are used in vehicles. For them the communication on substances happens via IMDS according to the annex of this standard.

7.3 REACH – Verordnung (EU) Nr. 1907/2006

Verordnung (EU) Nr. 1907/2006 regelt den Umgang mit Stoffen in der EU. Für Rosenberger sind besonders die REACH Kandidatenliste, sowie die Anhänge XIV und XVII relevant.

Anforderungen

Enthält ein geliefertes Erzeugnis eine SVHC der Kandidatenliste über 0,1% entsprechend des Urteils des EU-GH (Rechtssache C-106/14) ist dies Rosenberger unverzüglich mitzuteilen.
Stoffe, die in Anhang XIV der Verordnung aufgenommen wurden, dürfen nur nach vorheriger schriftlicher Genehmigung durch Rosenberger in zu liefernden Erzeugnissen enthalten sein.
Stoffe aus Anhang XVII dürfen in den dort beschränkten Anwendungen generell nicht enthalten sein. Mögliche Kommunikationsformen sind:

- E-Mail an product.compliance@rosenberger.com
- BOMCheck
- iPoint Supplier Entry Portal
- Für Lieferanten, die IMDS Daten senden gilt der Anhang

REACH – Regulation (EU) No. 1907/2006

Regulation 1907/2006 defines the requirements for substances in the EU. For Rosenberger especially the REACH Candidate List, as well as annexes XIV and XVII are relevant.

Requirements

Rosenberger has to be informed immediately if an supplied article contains a SVHC above 0.1% according to the judgment of the European Court of Justice (Case C-106/14).
Articles that contain substances of annex XIV may only be delivered after written authorisation of Rosenberger. Substances of Annex XVII may never be contained in applications defined in annex XVII. Possible forms of communication are:

- *Email to product.compliance@rosenberger.com*
- *BOMCheck*
- *iPoint Supplier Entry Portal*
- *Suppliers that send IMDS data apply the annex*

7.4 Verpackungen

Alle Verpackungen sowie alle Stoffe/Gemische, die Rosenberger zur Herstellung von Verpackungen verwendet (z.B. Folien zur Herstellung von Blister Verpackungen), müssen die Inhaltsstoffanforderungen entsprechend der Richtlinie 94/62/EG einhalten. Es gelten folgende Grenzwerte:

Stoff	Maximal erlaubte Konzentration
Summe der Konzentration von Blei, Cadmium, Quecksilber und Chrom VI	100 Gewichts-ppm

Packaging

All packaging as well as all substances/mixtures that are used by Rosenberger to produce packaging (e.g. foils for the production of blister packaging) has to comply with the substance requirements of Directive 94/62/EC. The following threshold applies:

Substance	*Maximum allowed concentration*
Sum of the concentration of lead, cadmium, mercury and chromium VI	*100 weight ppm*

7.5 Batterien

Alle gelieferten Batterien müssen die Stoffverbote entsprechend Artikel 4 der Richtlinie 2006/66/EG einhalten:

Stoff	Maximal erlaubte Konzentration
Cadmium	0,0005% w/w
Quecksilber	0,0001% w/w

Batteries

All supplied batteries have to fulfil the substance restrictions according to article 4 of directive 2006/66/EC:

Substance	*Maximum allowed concentration*
Cadmium	*0.0005% w/w*
Mercury	*0.0001% w/w*

7.6 Persistente organische Schadstoffe

Stoffe deren Herstellung, Inverkehrbringen und Verwendung durch Verordnung (EG) Nr. 850/2004 verboten sind, dürfen nicht geliefert werden.

Persistant Organic Polutants
Substances their production, placing on the market and use is forbidden by Regulation (EC) No. 850/2004 may not be supplied.

7.7 Stoffe, die zum Abbau der Ozonschicht führen
Geregelte Stoffe nach Verordnung (EG) Nr. 1005/2009 dürfen nicht geliefert werden.

Substances that deplete the ozone layer
Controlled substances according to Regulation (EC) No. 1005/2009 may not be supplied.

7.8 Biozidprodukte
Biozidprodukte entsprechend Verordnung (EU) Nr. 528/2012 dürfen nur geliefert werden, wenn alle notwendigen Genehmigungen vorliegen.

Biocidal Products
Biocidal products according to Regulation (EU) No. 528/2012 may only be supplied if all necessary authorisations were obtained.

7.9 China-RoHS II
Für Erzeugnisse die nach China exportiert werden sollen und für die entsprechend SJ/T 11364:2014 die Aufbringung des „EPUP-Logos“ notwendig ist, kann Rosenberger dies von den Lieferanten verlangen. Auf Anfrage muss der Lieferant alle notwendigen Informationen zur Verfügung stellen um die Informationsanforderungen nach SJ/T 11364:2014 zu erfüllen.

China-RoHS II
For articles Rosenberger exports to China and for which according to SJ/T 11364:2014 the affixing of the “EPUP Logo” is mandatory, Rosenberger can require this affixing from the supplier. On request supplier has to provide all necessary information to fulfil the information requirement of SJ/T 11364:2014.

8. Conflict Minerals
Rosenberger legt sehr hohen Wert auf einen verantwortungsvollen Umgang mit Rohstoffen. Lieferanten wurden bereits in unserem Mission Statement über unsere Anforderungen bezüglich Conflict Minerals informiert.

Rosenberger fordert von seinen Lieferanten jährlich ein ausgefülltes CMRT an. Hierbei gelten folgende Anforderungen:
- Es wird nur das CMRT akzeptiert. Vom Lieferanten selbst entworfene Schreiben ohne Angabe von Schmelzbetrieben werden nicht akzeptiert.
- Frage 5 des CMRT muss mit 100% beantwortet werden können.
- Es dürfen keine Hochrisiko-Schmelzen in der Lieferkette des Lieferanten vorhanden sein.
- Frage 6 sollte mit Ja beantwortet werden können. Falls dies noch nicht möglich ist, muss ein Zeitplan vorgelegt werden, ab wann Frage 6 mit Ja beantwortet werden kann.
- Das CMRT des Lieferanten sollte auf company level ausgestellt sein. Falls die Anforderungen nicht auf company level erfüllt werden können, darf ein CMRT auf product level gesendet werden.

Conflict Minerals
Rosenberger sets very high value on a responsible use of raw materials. Suppliers have been informed in our Mission Statement about our requirements regarding Conflict Minerals.

Rosenberger requires from its suppliers every year a filled CMRT. For this the following requirements apply:

Product Compliance Anforderungen
Product Compliance Requirements

- *Only a CMRT is accepted. Documents made by the supplier without identification of smelters are not accepted.*
- *Question 5 of the CMRT has to be answered with 100%.*
- *No High-Risk smelters may be part of the supplier´s supply chain.*
- *Question 6 should be answered with Yes. If this is not yet possible, a time schedule has to be provided to show when question 6 can be answered with yes.*
- *The CMRT of the supplier shall be issued on company level. If the requirements above cannot be fulfilled on company level, a CMRT on product level may be sent.*

9. Materialdeklarationen

Rosenberger wendet zur Erfüllung von Inhaltsstoffanforderungen die Normen DIN EN 50581 und IEC 63000 an. Dementsprechend werden für Erzeugnisse, für die keine IMDS Daten erhalten oder erzeugt werden, für die technische Dokumentation üblicherweise unterschriebene Verträge und/oder Zuliefererklärungen verwendet. In bestimmten Fällen ist es jedoch zur Erfüllung von besonderen Deklarationsanforderungen oder Kundenanforderungen notwendig eine Materialdeklaration für ein Produkt zu erstellen. Hierbei ist der Lieferant zur Unterstützung verpflichtet.

Material Declarations

For fulfilment of substance requirements Rosenberger applies the standards DIN EN 50581 and IEC 63000. Thus, for articles for which no IMDS data are obtained or generated usually signed contracts and/or supplier declarations are used for the technical documentation. In specific cases to fulfil special declaration requirements or customer requirements it is necessary to issue a material declaration for a product. In this case the supplier has to support.

10. Registrierung von Elektrogeräten, Batterien und Verpackungen

Soweit dies entsprechend der gesetzlichen Vorgaben notwendig ist, müssen Lieferanten Elektrogeräte, Batterien und Verpackungen in den entsprechenden Registern registriert haben. In Deutschland erfolgt die Registrierung bei Stiftung ear für Elektrogeräte, beim BattG-Melderegister des Umweltbundesamts für Batterien und bei der Stiftung Zentrale Stelle Verpackungsregister für Verpackungen. In anderen EU-Mitgliedsstaaten existieren jeweils andere nationale Register. Nicht vorschriftsgemäß registrierte Elektrogeräte, Batterien und Verpackungen dürfen nicht geliefert werden.

Registration of Electrical Equipment, Batteries and Packaging

As far as required by legal requirements supplier has to register electrical equipment, batteries and packaging in the respective registers. In Germany the registration of electrical equipment is done at the “Stiftung ear”, of batteries at the “BattG-Melderegister” of “Umweltbundesamt” and for packaging at the “Zentrale Stelle Verpackungsregister”. In other EU member states other national registers exist. Not proper registered electrical equipment, batteries and packaging may not be supplied.

Diese Norm ersetzt RN_051-01 Index f00 und RN_051-02 Index a00.

This standard supersedes RN_051-01 Index f00 and RN_051-02 Index a00.

Product Compliance Anforderungen
Product Compliance Requirements

Anhang I: weiterführende Anforderungen für die Business Area Automotive
Annex I: further requirements for the Business Area Automotive

Bereitstellung von IMDS Deklarationen

IMDS ist das Internationale Materialdatensystem der Automobilindustrie und über folgenden Link im Internet zu erreichen.

https://www.mdsystem.com/

Spätestens mit der Bereitstellung des Erstmusterprüfberichtes (EMPB) sind alle verwendeten Materialien von Teilen und Halbzeugen in diesem kostenlosen Portal an die Rosenberger Org ID 3093 zu deklarieren.
EMPBs werden nur mit vollständigen und korrekten IMDS Daten akzeptiert.
Die Struktur der Einträge richten sich nach der jeweils gültigen Fassung der IMDS Richtlinien.

Weitere Referenzen:

GADSL	Global Automotive Declarable Substance list
VDA Vol 2.	Qualitätsmanagement in Automotive - Qualitätssicherung von Lieferanten
IATF 16949	International Automotive Task Force
ISO 1043	für Kunststoffe - Symbole und Abkürzungen
ISO 1629	für Gummi - Nomenklatur
ISO 18064	für thermoplastische Elastomere - Nomenklatur und verkürzte Begriffe

In Zweifelsfällen soll Rücksprache gehalten werden mit imds@rosenberger.com

Supply of IMDS declarations

IMDS is the International Material Data System for the automotive industry. It can be reached via:

https://www.mdsystem.com/

At the latest with the provision of the initial sample inspection report (ISIR) all used materials of components and semicomponents must be declared in this free portal to Rosenberger Org ID 3093.
ISIRs will only be accepted with complete and correct IMDS report.
The structure of the entries is based on the IMDS guidelines in its´s valid version.

Further references:

GADSL	*Global Automotive Declarable Substance list*
VDA Vol 2.	*Quality management in the automotive industry – Quality assurance of suppliers*
IATF 16949	*International Automotive Task Force*
ISO 1043	*for Plastics – Symbols and abbreviated terms*
ISO 1629	*for Rubbers - Nomenclature*
ISO 18064	*for Thermoplastic elastomers – Nomenclature and abbreviated terms*

In case of doubt, please contact us at imds@rosenberger.com

Rosenberger

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www.rosenberger.com

To our customers

Fridolfing, 30.03.2022

Information regarding Regulation (EC) No 1907/2006 (REACH)

concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

Regulation (EC) No 1907/2006 (REACH) sets different requirements for the actors in the supply chain.
Rosenberger is a manufacturer of articles and does not produce chemical substances or mixtures. Thus, Rosenberger is a so called “downstream user” in the sense of the Regulation (Art. 3, 13). As such Rosenberger has neither the duty nor the possibility to register substances. This was done by our supplies as far as necessary.

Annex XIV of the regulation lists the substances that may only be used when authorisation was granted. Before a substance is added to annex XIV it is taken up in the so called “candidate list” and thus identified as “substance of very high concern” (SVHC). The candidate list is available here: https://echa.europa.eu/de/candidate-list-table

It is very important to notice that SVHC can still be used without restriction. Between the uptake of a substance in annex XIV and the start of the authorisation requirement (so called “Sunset Date”) a transition period of several years exist.

For articles that contain a SVHC above 0.1% w/w the duty to communicate information according to article 33 applies. Every supplier of such an article must provide the recipient at least with the name of the substance as long as no other information necessary for safe use are available to the supplier.

On 27th June 2018 lead (CAS 7439-92-1) was added to the REACH candidate list. This SVHC is contained above 0.1% w/w in all Rosenberger articles for which RoHS exemption 6c or ELV exemption 3[1] is applied. Products can be checked on the presence of SVHC here:
https://www.rosenberger.com/en/company/quality/compliance.php

Further information is available from: product.compliance@rosenberger.com

To the actual knowledge and based on information from the suppliers no article of Rosenberger contains substances listed in REACH Annex XIV and Annex XVII above the threshold defined in these annexes.

i.V. M. Müller

i. V. Dr. Michael Müller
(Product Compliance)

[1] For customers that receive IMDS data, Article 33 is fulfilled via them.

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Personally liable shareholder:
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Managing Directors
Dipl.-Kfm. Hans Rosenberger
Dipl.-Ing. Bernhard Rosenberger
Dipl.-Ing. Peter Rosenberger

Bank Accounts (Currency)
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SWIFT: BYLADEM1TST • IBAN: DE15 7105 2050 0000 2910 21
UniCredit Bank AG (EUR)
SWIFT: HYVEDEMM453 • IBAN: DE25 7102 2182 0003 6838 00
Deutsche Bank AG (EUR & USD)
SWIFT: DEUTDEMMXXX • IBAN: DE94 7007 0010 0812 3770 00
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Rosenberger

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To our customers
An unsere Kunden

Fridolfing, 27th August 2020

Substance restrictions according to
EU Directive 2011/65/EU on the restriction of certain hazardous substances in electrical and electronic equipment last amended by Commission Delegated Directive (EU) 2015/863
and
Directive 2000/53/EC on end-of life vehicles

Stoffbeschränkungen unter der
EU Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten zuletzt geändert durch die Delegierte Richtlinie (EU) 2015/863 der Kommission
und
Richtlinie 2000/53/EG über Altfahrzeuge

Dear Madam or Sir,
Sehr geehrte Damen und Herren,

With this letter we point out, that the products we supply to you meet the substance restrictions of the above mentioned directives.
mit diesem Schreiben weisen wir Sie darauf hin, dass bei den an Sie gelieferten Produkten die Stoffbeschränkungen gemäß der o.g. Richtlinien eingehalten werden.

Exemptions as listed in Annex III or IV of Directive 2011/65/EU or Annex II of Directive 2000/53/EC may apply. For product specific inquiries we provide the respective exemptions to our individual products. This document does not apply to parts or equipment that is specially designed for applications that are excluded from the scope of the directives, e.g. defence or aerospace.
Ausnahmen nach Anhang III oder IV der Richtlinie 2011/65/EU oder Anhang II der Richtlinie 2000/53/EG können Anwendung finden. Auf produktspezifische Anfragen erstellen wir die jeweiligen Ausnahmebestätigungen zu einzelnen Produkten. Dieses Dokument gilt nicht für Komponenten oder Geräte die speziell für Anwendungen entwickelt wurden, die vom Geltungsbereich der Richtlinien ausgenommen sind, z.B. Verteidigung oder Luftfahrt.

i.V. M. Müller

i.V. Dr. Michael Müller
Manager Product Compliance

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SWIFT: BYLADEM1TST • IBAN: DE15 7105 2050 0000 2910 21
UniCredit Bank AG (EUR)
SWIFT: HYVEDEMM453 • IBAN: DE25 7102 2182 0003 6838 00
Deutsche Bank AG (EUR & USD)
SWIFT: DEUTDEMMXXX • IBAN: DE94 7007 0010 0812 3770 00
Kreissparkasse Traunstein-Trostberg (USD)
SWIFT: BYLADEM1TST • IBAN: DE53 7105 2050 0310 0123 07

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Substances restricted by EU Directive 2011/65/EU, last amended by Delegated Directive (EU) 2015/863 as well as Directive 2000/53/EC

Stoffe beschränkt durch EU Richtlinie 2011/65/EU, zuletzt geändert durch die Delegierte Richtlinie (EU) 2015/863 sowie Richtlinie 2000/53/EG

Substance / *Stoff*	**EU Directive /** *EU Richtlinie*	**Maximum concentration in homogeneous material /** *Maximalkonzentration im homogenen Material*
Lead* / *Blei**	**2011/65/EU 2000/53/EG**	**0,1 %**
Mercury / *Quecksilber*	**2011/65/EU 2000/53/EG**	**0,1 %**
Cadmium / *Cadmium*	**2011/65/EU 2000/53/EG**	**0,01 %**
Hexavalent Chromium / *Sechswertiges Chrom*	**2011/65/EU 2000/53/EG**	**0,1 %**
Polybrominated Biphenyls / *Polybromierte Biphenyle (PBB)*	**2011/65/EU 2000/53/EG**	**0,1 %**
Polybrominated Diphenyl Ethers / *Polybromierte Diphenylether (PBDE)*	**2011/65/EU 2000/53/EG**	**0,1 %**
Bis(2-ethylhexyl) phthalate (DEHP) / *Di(2-ethylhexyl)phthalat (DEHP)*	**2011/65/EU**	**0,1 %**
Butyl benzyl phthalate (BBP) / *Butylbenzylphthalat (BBP)*	**2011/65/EU**	**0,1 %**
Dibutyl phthalate (DBP) / *Dibutylphthalat (DBP)*	**2011/65/EU**	**0,1 %**
Diisobutyl phthalate (DIBP) / *Diisobutylphthalat (DIBP)*	**2011/65/EU**	**0,1 %**

*** 2011/65/EU: For many of our products exemption 6c (up to 4% lead in copper alloys) is applied**

*** 2000/53/EG: For many of our products exemption 3 (up to 4% lead in copper alloys) is applied**

** 2011/65/EU: Für viele unserer Produkte wird die Ausnahme 6c (bis zu 4% Blei in Kupferlegierungen) angewendet*

** 2000/53/EG: Für viele unserer Produkte wird die Ausnahme 3 (bis zu 4% Blei in Kupferlegierungen) angewendet*

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AIAG
Automotive Industry Action Group

Acc. to AIAG PPAP 4th edition

PPAP (Production Part Approval Process) submission

Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

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Part submission warrant (PSW)

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024

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Number: 100439

Part Submission Warrant

Part Name: Cable Assembly | Cust. Part Number: MU5T-14H0007-EAA2040

Shown on Drawing No.: LAQ-118-2040-E-E_FORD | Org. Part Number: 90010406

Engineering Change Level: 001 | Dated: 21.11.22

Additional Engineering Changes: | Dated:

Safety and/or Government Regulation: ☐ Yes ☒ No | Purchase Order No.: | Weight (Kg): 0,026

Checking Aid No.: | Checking Aid Engineering Change Level: | Dated:

ORGANIZATION MANUFACTURING INFORMATION

Rosenberger Automotive Cabling KFT 52-542-4391
Organization Name & Supplier (Vendor) Code

Necso Telep 1
Street Address

Jászberény | 5100 | Hungary
City | Region | Postal Code | Country

CUSTOMER SUBMITTAL INFORMATION

Nursan Kablo Donanimlari
Customer Name/Division

17389
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: 1273382974 / 1

Are polymeric parts identified with appropriate ISO marking codes? ☐ Yes ☐ No ☒ n/a

REASON FOR SUBMISSION

- ☒ 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
- ☐ Sub-Supplier or Material Source Change
- ☐ Change in Part Processing
- ☐ Parts Produced at Additional Location
- ☐ Other - please specify

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 result for ☒ dimensional measurements ☒ material and functional tests ☐ appearance criteria ☒ statistical process package

These results meet all design and record requirements: ☒ Yes ☐ No (If "No" - Explanation Required)

Mold / Cavity / Production Process

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 4th Edition Requirements. I further affirm that these samples were produced at the production rate of _____/_____ hours. 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:

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

Organization Authorized Signature: Monika Major | Date: 02.02.24

Print Name: Major, Monika | Phone No.: | Fax No.:

Title: | E-mail: Monika.Major3@rosenberger.com

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: ☐ Approved ☐ Rejected ☐ Other

Customer Signature | Date

Print Name | Customer Tracking Number (optional)

March 2006 CFG-1001

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AIAG
Automotive Industry Action Group

Acc. to AIAG PPAP 4th edition

PPAP (Production Part Approval Process) submission

Design Drawing Number: LAQ-118-2040-E-E_FORD Version: AELE E 1377 Date: 21.11.2022

Miscellaneous

PPA documents prepared by: Monika Major (monika.major3@rosenberger.com)

Date: 02.02.2024