PROCESS FAILURE MODES AND EFFECTS ANALYSIS

DELFINGEN

FR 1001-06
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Article Name	Corrugated tubes	**Article Number:**		**Drawing & Eng. Ch. Level:**	
Date of last review meeting	12.12.2022	**Team:**	B. Boros (Quality assurance) , R. Bud (Production Manager), L. Acle (Process Technical) I. Torje (PMLP responsible)	**Created (Name):** Ioana Torje	**Released by:** B. Boros
Date of next review meeting	12.12.2022				

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Date of revision	12.12.2022
No. of revision	48

Process number	Process Function / Requirements	Pos.	Potential Failure Mode	Potential Effect(s) of Failure	SEV	Class	Potential Cause(s) / Mechanism(s) of Failure	Current Process Controls / Prevention	OCC	Current Process Controls / Detection	DET	RPN	Recommended Action (s)	Responsibility & Target Completion Date	Actions Taken	SEV	OCC	DET	RPN
				Current state										verbesserter Zustand					

PFEMA CHANGE HYSTORY

Revision	Date	Author	Description
0	27.10.1998	Frank Fircel	First release
1	15.01.2014	Suta Romeo	compare the labels with the order list (Fujikura client) (delivery)
2	04.03.2014	Suta Romeo	product release audit (Nexans client) (packing of pieces)
3	8/30/2014	Ionut Golban	change document format
4	11/19/2014	Ionut Golban	introduced line in extrusion process "material pressure variations in extruder", follow ing claim 174 / 2014
5	01.19.2015	Suta Romeo	Added spark test for hole detection (customer claim for holes tube)
6	6.17.2015	Ionut Golban	FMEA review meeting, introduced new failure modes
7	06.24.2016	Suta Romeo	Added new tipe of defect (tube can break during processing at customer)
8	1/15/2016	Suta Romeo	FMEA review meeting, introduced new failure modes
9	6/16/2016	Suta Romeo	Added new tipe of defect(excess material on the mold perpendicular split line/Spark tester updated with new head design for hole detection)
10	1/27/2017	D.Timoc	Added new actions(planning periodic cleaning of the tool/preventive maintenance plan,periodical nozzle maintenance plan,solenoid valve for cooling water for all lines)
11	06.07.2017	Ioana Torje	Update due to a claim with problem: "profile NOK , holes in the tube" -root cause : change the parameters during the process
12	31.08.2017	Ioana Torje	Difference between orange label from coil and production label; due to complain from Draexlmaier Romania Systeme Electrice, No: I-1701472
13	13.09.2017	Ioana Torje	Potential cause: no stopper in the end of the tube (for diameter 4.5 mm, UFW profile, PP Mod); due to claim no. 140 from Kromberg Ukraine
14	16.05.2018	Ioana Torje	Added "molds maintenance and checking the conformity with plasticine" , after claim OT-TR-1800766-Leoni Ucraina (burrs on the surface tube)
15	11.06.2018	Ioana Torje	Added action from a claim from YAZAKI UKRAINE. No. 1100026. (Steel wire cable inside the tube, part number 1949210).
16	31.05.2018	Ioana Torje	Update due to claim No: 1100074, from SE BORONETZE Romania– failure: "Tube too long", Part No: 1958012.
17	12.10.2018	Ioana Torje	Update due to claim from SE BORONETZE Romania– failure: "Wrong labeling"– in extern warehouse.
18	25.03.2019	Ioana Torje	Update due to claim No: 1100003, from Kromberg Nadab– failure: "Tube deformed", Part no. 1940213.
19	18.06.2019	Ioana Torje	Added "Tube length will be checked with Dedicated Ruler RO 1958126, RO 1959457 for articles 1958126, 1959457", after claims from SEBN Romania and RO 1958030 for article 1958030 after claim from Bect Bulgaria.
20	21.06.2019	Ioana Torje	Update due to claim from PKC Serbia– failure: "holes in the tube– root cause: defective molds or molds which were manually repaired", Part no. 1200070 / 1200007 .
21	05.07.2019	Ioana Torje	Update due to claim from PKC Poland– failure: "no printing– root cause: defective molds or molds which were manually repaired", Part no.: 1200117.
22	11.07.2019	Ioana Torje	Update due to claim No: OT-TR-1901162, from Leoni Wiring Systems UA GmbH Ukraine– failure: "Wrong tube found in box", Part no. 1995162.
23	16.01.2020	Ioana Torje	Update due to claim No: K-20-0004, from SE BORONETZE BULGARIA EOOD– failure: "Cut – wave crest inaccurate"; Part no.: 1959240.
24	24.07.2020	Ioana Torje	Update due to claim No. K-20-0166, from Leoni Wiring Systems UA GmbH (Ukraine)– failure: "unslitted tube instead of slitted"; Part no.: 1981170. Change Core Team.
25	26.09.2020	Ioana Torje	Update due to claim from Leoni Ukraine – failure: "Wrong lenght– too short", Part no.: 000-1973731600-01.
26	02.10.2020	Ioana Torje	Update due to a claim No. K-20-0290, from customer KROMBERG AND SCHUBERT ROMANIA ME SRL; Failure: "wrong dimencion of the cresct"- article: 1927008.
27	23.10.2020	Ioana Torje	Update due to a claim No.: 200076, from customer PKC Wiring Systems doo, Failure: "Burr on corrugated profile", for part: 1200061.
28	13.01.2021	Ioana Torje	Update due to a claim No.: 91/20141207S2020, from customer DIS Draexlmaier Industrial Solution GmbH, Failure: "Wrong delivered tube", for part: 1926100.
29	12.02.2021	Claudiu Timoc	Review due to a claim No: OT-TR-2100303 from customer Leoni Ukraine, Failure: Tube length to short
30	04.03.2021	Claudiu Timoc	Review due to a claim No: 255 from customer Rimaster , Failure:Missing quantity
31	23.04.2021	Claudiu Timoc	Review due to a claim No: OT-TR-2100956 from customer Leoni Ukraine, Failure: NOK cut on the creast
32	14.05.20021	Claudiu Timoc	Review due to a claim from customer Kromberg Ukraine, Failure: damaged profile
33	04.06.2021	Claudiu Timoc	Review due to a claim No: 274 from customer Rimaster, Failure: missing quantity
34	26.08.2021	Claudiu Timoc	Review due to a claim No: YBE-R-Q-N-FT-7133378-08-21 from customer Yazaki Bulgaria , Failure: tangled tube
35	07.09.2021	Claudiu Timoc	Review due to a claim from customer Fujikura Ukraine, Failure: wrong content in the box
36	08.10.2021	Claudiu Timoc	Review due to a claim No: OT-TR-2102067 from customer Leoni Ukraine , Failure: tube length too long
37	14.04.2022	Bianka Boros	Review PFMEA after claim from SEBN Caras Severin # 1997 Wrong Item sent.
38	15.04.2022	Bianka Boros	Review PFMEA after claim from Nexans for wrong length, tube too short
39	19.04.2022	Bianka Boros	Review PFMEA after claim from Delfingen Hasufurt. Coil lenght NOK. New failure cause was added: measuring sensor error => wrong length of the coil .
40	09.06.2022	Bianka Boros	Review PFMEA after claim from Leoni Bistrita and Elmatit Ungaria wrong length
41	18.07.2022	Bianka Boros	Review PFMEA after claim no. 209 from Fujikura Ukraine for PN 000-19599650-01 wrong length.
42	19.07.2022	Bianka Boros	Review PFMEA after claim from SEBN Bulgaria for part 000-1231164A00-01 length NOK too short. New failure mode was added mixing of set up parts with certain parts
43	20.07.2022	Bianka Boros	Review PFMEA after claim from Leoni for part 1200248 pinched tube.
44	22.07.2022	Bianka Boros	Rewew PFMEA after information from Leoni for coil length NOK. Rewew PFMEA after information from Leoni Arad for part 1229017 stretched tube.
45	20.09.2022	Bianka Boros	Update PFMEA after claim KTR 22.8.385.02 from SEBN : tube profile NOK. New failure cause was added (damage molds) Update after information from Leoni tube length NOK.
46	30.09.2022	Bianka Boros	Rewew PFMEA after claim BM KTR 22.9.403.01 from SEBN wrong labeling. Online labeling was implemented
47	18.11.2022	Bianka Boros	Rewew PFMEA after information from Leoni tube length NOK (part no: 000-1963550300-01). New failure mode was added. Wrong selection of the cutting module Rewew after claim from PKC 220143 (#3580) damaged tube. New failure mode was added streched tube .
48	12.12.2022	Bianka Boros	Update PFMEA after claim BM KTR 22.9.410.02 (#3309) and BM KTR 22.9.404.02 (#3288) from SEBN tube lenght NOK. Cutting programs was standardized.

Process Risk Matrix

Severity	1	2	3	4	5	6	7	8	9	10
10										
9										
8										
7		12	2	2						
6	5	30	11	11	1					
5		6	11	1	1					
4		4	2	1						
3		1	2		5					
2		2								
1										

>>> Occurance >>>