Second Revision No. 8108-NFPA 70-2021 [Global Comment]

Delete the word "Type" from the Article title in the following Articles: Also, any acronyms are to be in parenthesis.

342, 344, 348, 350, 352, 353, 354, 355, 356, 358, 360, 362.

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 09:40:31 EDT 2021

Committee Statement

Committee Statement: "Type" has been removed from the new definitions found in Article 100 for conduit and tubings. This editorial deletion correlates with the definition and clarifies the acronym for usability.

Response Message: SR-8108-NFPA 70-2021

Public Comment No. 79-NFPA 70-2021 [Article 348]

Public Comment No. 78-NFPA 70-2021 [Article 344]

Public Comment No. 88-NFPA 70-2021 [Article 362]

Public Comment No. 80-NFPA 70-2021 [Article 350]

Public Comment No. 77-NFPA 70-2021 [Article 342]

Public Comment No. 83-NFPA 70-2021 [Article 354]

Public Comment No. 86-NFPA 70-2021 [Article 358]

Public Comment No. 81-NFPA 70-2021 [Article 352]

Public Comment No. 85-NFPA 70-2021 [Article 356]

Public Comment No. 82-NFPA 70-2021 [Article 353]

Public Comment No. 84-NFPA 70-2021 [Article 355]

Public Comment No. 87-NFPA 70-2021 [Article 360]

Second Revision No. 8183-NFPA 70-2021 [Global Comment]

[See Attached Word Document "NEC_CMP 8_SR8183_Chapter 9_Article_342_Table" For revisions to the Chapter 9 Table Article 342]

Supplemental Information

File Name	Description	Approved
NEC_CMP_8_SR8183_Chapter_9_Article_342_Table.docx	Revised Chapter 9 Article 342 Table. For staff use	
NEC_CMP_8_SR8183_Chapter_9_Article_342_Table_for_ballot.docx	For ballot	

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Fri Oct 22 13:46:51 EDT 2021

Committee Statement

Committee Statement: Table 4 Article 342 was revised to correlate with the trade sizes between IMC, RMC and EMT. It also correlates with the action taken on Public Comment 1209 for 342.20(B).

Response Message: SR-8183-NFPA 70-2021

Public Comment No. 1210-NFPA 70-2021 [Section No. Table]

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Article 342 — Intermediate Metal Conduit (IMC)													
Metric Designator	Trade Size	Over 2 Wires 40%		60%		1 Wire 53%		2 Wires 31%		Nominal Internal Diameter		Total Area 100%	
		mm²	in.²	mm²	in.²	mm²	in.²	mm²	in.²	mm	in.	mm²	in.²
12	3/8	—	—	—	—	—	—	—	—	—	—	—	—
16	1/2	89	0.137	133	0.205	117	0.181	69	0.106	16.8	0.660	222	0.342
21	3/4	151	0.235	226	0.352	200	0.311	117	0.182	21.9	0.864	377	0.586
27	1	248	0.384	372	0.575	329	0.508	192	0.297	28.1	1.105	620	0.959
35	1 1/4	425	0.659	638	0.988	564	0.873	330	0.510	36.8	1.448	1064	1.647
41	1 1/2	573	0.890	859	1.335	759	1.179	444	0.690	42.7	1.683	1432	2.225
53	2	937	1.452	1405	2.178	1241	1.924	726	1.125	54.6	2.150	2341	3.630
63	2 1/2	1323	2.054	1985	3.081	1753	2.722	1026	1.592	64.9	2.557	3308	5.135
78	3	2046	3.169	3069	4.753	2711	4.199	1586	2.456	80.7	3.176	5115	7.922
91	3 1/2	2729	4.234	4093	6.351	3616	5.610	2115	3.281	93.2	3.671	6822	10.584
103	4	3490	5.452	5235	8.179	4624	7.224	2705	4.226	105.4	4.166	8725	13.631
129	5	5455	8.528	8183	12.792	7229	11.30	4228	6.610	131.78	5.210	136.39	21.32
155	6	7878	12.304	11817	18.456	10439	16.302	6106	9.536	158.36	6.258	19696	30.76

Second Revision No. 8185-NFPA 70-2021 [Global Comment]

Remove the word "Type" from Table C.1 and from the Table headings of C.10, C.11, C.12, C.13, C.14, and C.15

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Fri Oct 22 14:27:50 EDT 2021

Committee Statement

Committee Statement: "Type" has been removed from the new definitions found in Article 100 for conduit and tubings. This editorial deletion of "Type" within the definition of Liquidtight Flexible Nonmetallic Conduit (LFNC) correlates with the other definitions and clarifies the acronym for usability.

Response Message: SR-8185-NFPA 70-2021

Second Revision No. 8190-NFPA 70-2021 [Global Comment]

[See Attached Word Document "NEC_CMP 8_SR8190_Annex_C_C.8" for Revisions to Annex C, C.8, Table C.4]

Supplemental Information

File Name	Description	Approved
NEC_CMP_8_SR8190_Annex_C_C.8.docx	Revised C.8 Table C.4. For staff use	
NEC_CMP_8_SR8190_Annex_C_C.8_for_ballot.docx	For ballot	

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Fri Oct 22 14:42:01 EDT 2021

Committee Statement

Committee Statement: Table C.8 was revised to include trade size 5 and 6 for IMC. Table C.9 will need to be revised in a future edition of the NEC.

Response Message: SR-8190-NFPA 70-2021

Public Comment No. 2205-NFPA 70-2021 [Section No. C.8]

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C.8

Table C.4 Maximum Number of Conductors or Fixture Wires in Intermediate Metal Conduit (IMC)

(Based on Chapter 9: Table 1, Table 4, and Table 5)

Type	Conductor Size (AWG/kcmil)	Trade Size (Metric Designator)												
		3/8 (12)	1/2 (16)	3/4 (21)	1 (27)	1 1/4 (35)	1 1/2 (41)	2 (53)	2 1/2 (63)	3 (78)	3 1/2 (91)	4 (103)	5 (129)	6 (155)
CONDUCTORS														
RHH, RHW, RHW-2	14	—	4	8	13	22	30	49	70	108	144	186	—291	—419
	12	—	4	6	11	18	25	41	58	89	120	154	—241	—348
	10	—	3	5	8	15	20	33	47	72	97	124	—195	—281
	8	—	1	3	4	8	10	17	24	38	50	65	—102	—147
	6	—	1	1	3	6	8	14	19	30	40	52	—81	—118
	4	—	1	1	3	5	6	11	15	23	31	41	—63	—92
	3	—	1	1	2	4	6	9	13	21	28	36	—56	—80
	2	—	1	1	1	3	5	8	11	18	24	31	—48	—70
	1	—	0	1	1	2	3	5	7	12	16	20	—32	—46
	1/0	—	0	1	1	1	3	4	6	10	14	18	—28	—40
	2/0	—	0	1	1	1	2	4	6	9	12	15	—24	—35
	3/0	—	0	0	1	1	1	3	5	7	10	13	—20	—30
	4/0	—	0	0	1	1	1	3	4	6	9	11	—17	—25
	250	—	0	0	1	1	1	1	3	5	6	8	—13	—19
	300	—	0	0	0	1	1	1	3	4	6	7	—12	—17
	350	—	0	0	0	1	1	1	2	4	5	7	—10	—15
	400	—	0	0	0	1	1	1	2	3	5	6	—9	—14
	500	—	0	0	0	1	1	1	1	3	4	5	—8	—12
	600	—	0	0	0	0	1	1	1	2	3	4	—7	—10
	700	—	0	0	0	0	1	1	1	2	3	4	—6	—9
	750	—	0	0	0	0	1	1	1	1	3	4	—5	—8
	800	—	0	0	0	0	0	1	1	1	3	3	—5	—8

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Type	Conductor Size (AWG/kcmil)	Trade Size (Metric Designator)												
		3/8 (12)	1/2 (16)	3/4 (21)	1 (27)	1 1/4 (35)	1 1/2 (41)	2 (53)	2 1/2 (63)	3 (78)	3 1/2 (91)	4 (103)	5 (129)	6 (155)
	900	—	0	0	0	0	0	1	1	1	2	3	—5	—7
	1000	—	0	0	0	0	0	1	1	1	2	3	—4	—6
	1250	—	0	0	0	0	0	1	1	1	1	1	—3	—5
	1500	—	0	0	0	0	0	0	1	1	1	1	—3	—4
	1750	—	0	0	0	0	0	0	1	1	1	1	—2	—4
	2000	—	0	0	0	0	0	0	1	1	1	1	—2	—3
TW, THHW, THW, THW-2	14	—	10	17	27	47	64	104	147	228	304	392	—613	—885
	12	—	7	13	21	36	49	80	113	175	234	301	—471	—679
	10	—	5	9	15	27	36	59	84	130	174	224	—350	—506
	8	—	3	5	8	15	20	33	47	72	97	124	—195	—281
RHH*, RHW*, RHW-2*	14	—	6	11	18	31	42	69	98	151	202	261	—408	—588
	12	—	5	9	14	25	34	56	79	122	163	209	—328	—473
	10	—	4	7	11	19	26	43	61	95	127	163	—256	—369
	8	—	2	4	7	12	16	26	37	57	76	98	—153	—221
TW, THW, THHW, THW-2, RHH*, RHW*, RHW-2*	6	—	1	3	5	9	12	20	28	43	58	75	—117	—169
	4	—	1	2	4	6	9	15	21	32	43	56	—87	—126
	3	—	1	1	3	6	8	13	18	28	37	48	—75	—108
	2	—	1	1	3	5	6	11	15	23	31	41	—63	—92
	1	—	1	1	1	3	4	7	11	16	22	28	—44	—64
	1/0	—	1	1	1	3	4	6	9	14	19	24	—38	—55
	2/0	—	0	1	1	2	3	5	8	12	16	20	—32	—46
	3/0	—	0	1	1	1	3	4	6	10	13	17	—27	—39
	4/0	—	0	1	1	1	2	4	5	8	11	14	—22	—33
	250	—	0	0	1	1	1	3	4	7	9	12	—18	—26
	300	—	0	0	1	1	1	2	4	6	8	10	—16	—23
	350	—	0	0	1	1	1	2	3	5	7	9	—14	—20
	400	—	0	0	0	1	1	1	3	4	6	8	—12	—18
	500	—	0	0	0	1	1	1	2	4	5	7	—10	—15
	600	—	0	0	0	1	1	1	1	3	4	5	—8	—12

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Type	Conductor Size (AWG/kcmil)	Trade Size (Metric Designator)												
		3/8 (12)	1/2 (16)	3/4 (21)	1 (27)	1 1/4 (35)	1 1/2 (41)	2 (53)	2 1/2 (63)	3 (78)	3 1/2 (91)	4 (103)	5 (129)	6 (155)
	700	—	0	0	0	0	1	1	1	3	4	5	—7	—11
	750	—	0	0	0	0	1	1	1	2	3	4	—7	—10
	800	—	0	0	0	0	1	1	1	2	3	4	—6	—10
	900	—	0	0	0	0	1	1	1	2	3	4	—6	—9
	1000	—	0	0	0	0	0	1	1	1	3	3	—5	—8
	1250	—	0	0	0	0	0	1	1	1	1	3	—4	—6
	1500	—	0	0	0	0	0	1	1	1	1	2	—3	—5
	1750	—	0	0	0	0	0	0	1	1	1	1	—3	—4
	2000	—	0	0	0	0	0	0	1	1	1	1	—3	—4
THHN, THWN, THWN-2	14	—	14	24	39	68	91	149	211	326	436	562	—879	—1268
	12	—	10	17	29	49	67	109	154	238	318	410	—641	—925
	10	—	6	11	18	31	42	69	97	150	200	258	—404	—583
	8	—	3	6	10	18	24	39	56	86	115	149	—233	—336
	6	—	2	4	7	13	17	28	40	62	83	107	—168	—242
	4	—	1	3	4	8	11	17	25	38	51	66	—103	—149
	3	—	1	2	4	6	9	15	21	32	43	56	—87	—126
	2	—	1	1	3	5	7	12	17	27	36	47	—73	—106
	1	—	1	1	2	4	5	9	13	20	27	35	—54	—78
	1/0	—	1	1	1	3	4	8	11	17	23	29	—45	—66
	2/0	—	1	1	1	3	4	6	9	14	19	24	—38	—55
	3/0	—	0	1	1	2	3	5	7	12	16	20	—31	—45
	4/0	—	0	1	1	1	2	4	6	9	13	17	—26	—38
	250	—	0	0	1	1	1	3	5	8	10	13	—21	—30
	300	—	0	0	1	1	1	3	4	7	9	12	—18	—26
	350	—	0	0	1	1	1	2	4	6	8	10	—16	—23
	400	—	0	0	1	1	1	2	3	5	7	9	—14	—20
	500	—	0	0	0	1	1	1	3	4	6	7	—12	—17
	600	—	0	0	0	1	1	1	2	3	5	6	—9	—14

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Type	Conductor Size (AWG/kcmil)	Trade Size (Metric Designator)												
		3/8 (12)	1/2 (16)	3/4 (21)	1 (27)	1 1/4 (35)	1 1/2 (41)	2 (53)	2 1/2 (63)	3 (78)	3 1/2 (91)	4 (103)	5 (129)	6 (155)
	700	—	0	0	0	1	1	1	1	3	4	5	—8	—12
	750	—	0	0	0	1	1	1	1	3	4	5	—8	—11
	800	—	0	0	0	0	1	1	1	3	4	5	—7	—11
	900	—	0	0	0	0	1	1	1	2	3	4	—6	—9
	1000	—	0	0	0	0	1	1	1	2	3	4	—6	—9
FEP, FEPB, PFA, PFAH, TFE	14	—	13	23	38	66	89	145	205	317	423	545	—852	—1230
	12	—	10	17	28	48	65	106	150	231	309	398	—622	—898
	10	—	7	12	20	34	46	76	107	166	221	285	—446	—644
	8	—	4	7	11	19	26	43	61	95	127	163	—256	—369
	6	—	3	5	8	14	19	31	44	67	90	116	—182	—262
	4	—	1	3	5	10	13	21	30	47	63	81	—127	—183
	3	—	1	3	4	8	11	18	25	39	52	68	—106	—153
	2	—	1	2	4	6	9	15	21	32	43	56	—87	—126
PFA, PFAH, TFE	1	—	1	1	2	4	6	10	14	22	30	39	—60	—87
PFA, PFAH, TFE, Z	1/0	—	1	1	1	4	5	8	12	19	25	32	—50	—73
	2/0	—	1	1	1	3	4	7	10	15	21	27	—42	—60
	3/0	—	0	1	1	2	3	6	8	13	17	22	—34	—49
	4/0	—	0	1	1	1	3	5	7	10	14	18	—28	—41
Z	14	—	16	28	46	79	107	175	247	381	510	657	—1027	—1482
	12	—	11	20	32	56	76	124	175	271	362	466	—728	—1051
	10	—	7	12	20	34	46	76	107	166	221	285	—446	—644
	8	—	4	7	12	22	29	48	68	105	140	180	—282	—407
	6	—	3	5	9	15	20	33	47	73	98	127	—198	—286
	4	—	1	3	6	10	14	23	33	50	67	87	—136	—196
	3	—	1	2	4	7	10	17	24	37	49	63	—99	—143
	2	—	1	1	3	6	8	14	20	30	41	53	—82	—119
	1	—	1	1	3	5	7	11	16	25	33	43	—67	—96

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Type	Conductor Size (AWG/kcmil)	Trade Size (Metric Designator)												
		3/8 (12)	1/2 (16)	3/4 (21)	1 (27)	1 1/4 (35)	1 1/2 (41)	2 (53)	2 1/2 (63)	3 (78)	3 1/2 (91)	4 (103)	5 (129)	6 (155)
XHHW, ZW, XHHW-2, XHH	14	—	10	17	27	47	64	104	147	228	304	392	—613	—885
	12	—	7	13	21	36	49	80	113	175	234	301	—471	—679
	10	—	5	9	15	27	36	59	84	130	174	224	—350	—506
	8	—	3	5	8	15	20	33	47	72	97	124	—195	—281
	6	—	1	4	6	11	15	24	35	53	71	92	—144	—208
	4	—	1	3	4	8	11	18	25	39	52	67	—104	—151
	3	—	1	2	4	7	9	15	21	33	44	56	—88	—127
	2	—	1	1	3	5	7	12	18	27	37	47	—74	—107
XHHW, XHHW-2, XHH	1	—	1	1	2	4	6	9	13	20	27	35	—55	—80
	1/0	—	1	1	1	3	5	8	11	17	23	30	—46	—67
	2/0	—	1	1	1	3	4	6	9	14	19	25	—38	—56
	3/0	—	0	1	1	2	3	5	7	12	16	20	—32	—46
	4/0	—	0	1	1	1	2	4	6	10	13	17	—26	—38
	250	—	0	0	1	1	1	3	5	8	11	14	—21	—31
	300	—	0	0	1	1	1	3	4	7	9	12	—18	—27
	350	—	0	0	1	1	1	3	4	6	8	10	—16	—23
	400	—	0	0	1	1	1	2	3	5	7	9	—14	—21
	500	—	0	0	0	1	1	1	3	4	6	8	—12	—17
	600	—	0	0	0	1	1	1	2	3	5	6	—9	—14
	700	—	0	0	0	1	1	1	1	3	4	5	—8	—12
	750	—	0	0	0	1	1	1	1	3	4	5	—8	—11
	800	—	0	0	0	0	1	1	1	3	4	5	—7	—11
	900	—	0	0	0	0	1	1	1	2	3	4	—6	—9
	1000	—	0	0	0	0	1	1	1	2	3	4	—6	—9
	1250	—	0	0	0	0	0	1	1	1	2	3	—4	—7
	1500	—	0	0	0	0	0	1	1	1	1	2	—4	—6
	1750	—	0	0	0	0	0	1	1	1	1	2	—3	—5
	2000	—	0	0	0	0	0	0	1	1	1	1	—3	—4
FIXTURE WIRES														

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Type	Conductor Size (AWG/kcmil)	Trade Size (Metric Designator)												
		3/8 (12)	1/2 (16)	3/4 (21)	1 (27)	1 1/4 (35)	1 1/2 (41)	2 (53)	2 1/2 (63)	3 (78)	3 1/2 (91)	4 (103)	5 (129)	6 (155)
RFH-2, FFH-2, RFHH-2	18	—	9	16	26	45	61	100	141	218	292	376	—588	—848
	16	—	8	13	22	38	51	84	119	184	246	317	—495	—715
SF-2, SFF-2	18	—	12	20	33	57	77	126	178	275	368	474	—741	— 1069
	16	—	10	17	27	47	64	104	147	228	304	392	—613	—885
	14	—	8	13	22	38	51	84	119	184	246	317	—495	—715
SF-1, SFF-1	18	—	21	36	59	101	137	223	316	487	651	839	— 1312	— 1892
RFH-1, TF, TFF, XF, XFF	18	—	15	26	43	75	101	165	233	360	481	619	—969	— 1398
	16	—	12	21	35	60	81	133	188	290	388	500	—782	— 1128
XF, XFF	14	—	10	17	27	47	64	104	147	228	304	392	—613	—885
TFN, TFFN	18	—	25	42	69	119	162	264	373	576	769	991	— 1550	— 2237
	16	—	19	32	53	91	123	201	285	440	588	757	— 1184	— 1708
PF, PFF, PGF, PGFF, PAF, PTF, PTFF, PAFF	18	—	23	40	66	113	153	250	354	546	730	940	— 1470	— 2121
	16	—	18	31	51	88	118	193	274	422	564	727	— 1137	— 1640
	14	—	13	23	38	66	89	145	205	317	423	545	—852	— 1230
ZF, ZFF, ZHF	18	—	30	52	85	146	197	322	456	704	941	1211	— 1895	— 2734
	16	—	22	38	63	108	146	238	336	519	694	894	— 1398	— 2017
	14	—	16	28	46	79	107	175	247	381	510	657	— 1027	— 1482
KF-2, KFF-2	18	—	45	78	128	219	296	484	684	1056	1411	1817	— 2842	— 4101
	16	—	32	54	89	153	207	337	477	737	984	1268	— 1983	— 2861

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Type	Conductor Size (AWG/kcmil)	Trade Size (Metric Designator)												
		3/8 (12)	1/2 (16)	3/4 (21)	1 (27)	1 1/4 (35)	1 1/2 (41)	2 (53)	2 1/2 (63)	3 (78)	3 1/2 (91)	4 (103)	5 (129)	6 (155)
	14	—	21	36	60	103	139	227	321	495	661	852	— 1332	— 1922
	12	—	15	25	41	71	96	158	223	344	460	592	—926	— 1337
	10	—	10	17	27	47	64	104	147	228	304	392	—613	—885
KF-1, KFF-1	18	—	52	90	147	253	342	558	790	1218	1628	2097	— 3280	— 4732
	16	—	37	63	103	178	240	392	555	856	1144	1473	— 2304	— 3325
	14	—	25	42	69	119	162	264	373	576	769	991	— 1550	— 2237
	12	—	16	28	46	79	107	175	247	381	510	657	— 1027	— 1482
	10	—	10	18	30	52	70	114	161	249	333	429	—671	—968
XF, XFF	12	—	5	9	14	25	34	56	79	122	163	209	—	—
	10	—	4	7	11	19	26	43	61	95	127	163	—	—

Notes:

1. This table is for concentric stranded conductors only. For compact stranded conductors, Table C.4(A) should be used.

2. Two-hour fire-rated RHH cable has ceramifiable insulation, which has much larger diameters than other RHH wires. Consult manufacturer's conduit fill tables.

*Types RHH, RHW, and RHW-2 without outer covering.

Second Revision No. 8122-NFPA 70-2021 [Detail]

Move the definitions "Flexible Bus Systems" and "Flexible Insulated Bus" from 371.2 to Article 100 and delete 371.2 Definitions from Article 371.

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 12:00:17 EDT 2021

Committee Statement

Committee Statement: The definitions have been relocated to Article 100 per the NEC Style Manual and removed from Article 371.

Response Message: SR-8122-NFPA 70-2021

Public Comment No. 131-NFPA 70-2021 [New Definition after Definition: Flat Conductor Cable, Type...]

Public Comment No. 132-NFPA 70-2021 [Section No. 371.2]

Public Comment No. 1813-NFPA 70-2021 [Global Input]

Public Comment No. 832-NFPA 70-2021 [Global Input]

Public Comment No. 1811-NFPA 70-2021 [Section No. 371.2]

Second Revision No. 8149-NFPA 70-2021 [Detail]

Move the definitions "Insulated Bus Pipe" and "IBP Systems" from 369.2 to Article 100 and delete 369.2 Definitions from Article 369.

Submitter Information Verification

Committee: NEC-P08
Submittal Date: Thu Oct 21 17:03:38 EDT 2021

Committee Statement

Committee Statement: The definitions have been relocated to Article 100 per the NEC Style Manual and deleted from Article 369.
Response Message: SR-8149-NFPA 70-2021

Public Comment No. 130-NFPA 70-2021 [Section No. 369.2]

Second Revision No. 8161-NFPA 70-2021 [Definition: Conduit, Liquidtight Flexible Nonmetallic (LFNC...]

Conduit, Liquidtight Flexible Nonmetallic (LFNC). (Liquidtight Flexible Nonmetallic Conduit)

A raceway of circular cross section of various types as follows:

(1) A smooth seamless inner core and cover bonded together and having one or more reinforcement layers between the core and covers, designated as ~~Type~~ LFNC-A

(2) A smooth inner surface with integral reinforcement within the raceway wall, designated as ~~Type~~ LFNC-B

(3) A corrugated internal and external surface without integral reinforcement within the raceway wall, designated as ~~Type~~ LFNC-C

(CMP-8)

Informational Note: FNMC is an alternative designation for LFNC.

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Fri Oct 22 08:27:40 EDT 2021

Committee Statement

Committee Statement: "Type" has been removed from the new definitions found in Article 100 for conduit and tubings. This editorial deletion of "Type" within the definition of Liquidtight Flexible Nonmetallic Conduit (LFNC) correlates with the other definitions and clarifies the acronym for usability.

Response Message: SR-8161-NFPA 70-2021

Public Comment No. 14-NFPA 70-2021 [Definition: Conduit, Liquidtight Flexible Nonmetallic (LFNC...]

Second Revision No. 8148-NFPA 70-2021 [Definition: Raceway.]

Raceway.

An enclosed channel designed expressly for holding wires, cables, or busbars, with additional functions as permitted in this *Code*. (CMP-8)

~~Informational Note: A raceway is identified within specific article definitions.~~

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 16:56:34 EDT 2021

Committee Statement

Committee Statement: The Informational Note within the definition of a “Raceway” was deleted since all raceway definitions have been relocated to Article 100.

Response Message: SR-8148-NFPA 70-2021

Public Comment No. 13-NFPA 70-2021 [Definition: Raceway.]

Public Comment No. 837-NFPA 70-2021 [Global Input]

Second Revision No. 8144-NFPA 70-2021 [Section No. 342.20(B)]

(B) Maximum.

IMC larger than metric designator ~~103~~ 155 (trade size 4 6) shall not be used.

Informational Note: See 300.1(C) for the metric designators and trade sizes. These are for identification purposes only and do not relate to actual dimensions.

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 15:47:53 EDT 2021

Committee Statement

Committee Statement: The panel accepted changes to include trade sizes 5 and 6 IMC to Article 342 to keep consistency in the rigid metal raceway articles.

The panel found that due to the changes made in the first draft by FR7583 and the fact that the products are manufactured similarly that the addition of the new trade sizes are not considered new material.

Response Message: SR-8144-NFPA 70-2021

Public Comment No. 1209-NFPA 70-2021 [Section No. 342.20(B)]

Second Revision No. 8141-NFPA 70-2021 [Section No. 348.8]

348.2 ~~Reconditioning~~ Reconditioned Equipment .

FMC shall not be reconditioned.

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 15:10:48 EDT 2021

Committee Statement

Committee Statement: Renumbers 348.8 to 348.2 and retitles the section to Reconditioned Equipment per the Correlating Committee Public Comment 896.

Response Message: SR-8141-NFPA 70-2021

Second Revision No. 8142-NFPA 70-2021 [Section No. 350.8]

350.2 ~~Reconditioning~~ Reconditioned Equipment .

LFMC shall not be reconditioned.

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 15:14:47 EDT 2021

Committee Statement

Committee Statement: Renumbers 350.8 to 350.2 and retitles the section to Reconditioned Equipment per the Correlating Committee Public Comment 896.

Response Message: SR-8142-NFPA 70-2021

Second Revision No. 8133-NFPA 70-2021 [Section No. 353.48]

353.48 Joints.

All joints between lengths of conduit, fittings, and boxes shall be made ~~using either electrofusion or mechanical fittings~~ by a method identified by the manufacturer. Heat fusion or butt fusion joints shall not be permitted .

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 13:10:24 EDT 2021

Committee Statement

Committee Statement: UL 651A is performance based, if the CMP creates a laundry list of permitted joints, it may inadvertently omit a joining method that could meet the performance requirements of the standard. By prohibiting heat and butt fusion, that seems to meet the intent of the original PI as well as the intent of the current PC's.

Response Message: SR-8133-NFPA 70-2021

Public Comment No. 1415-NFPA 70-2021 [Section No. 353.48]

Public Comment No. 562-NFPA 70-2021 [Section No. 353.48]

Public Comment No. 1066-NFPA 70-2021 [Section No. 353.48]

Second Revision No. 8135-NFPA 70-2021 [Section No. 354.10]

354.10 Uses Permitted.

The use of NUCC and fittings shall be permitted in the following:

(1) For direct burial underground installation (For minimum cover requirements, see Table 300.5(A)~~under nonmetallic raceway~~ and Table 305.15(A)~~ under RTRC, PVC, HDPE~~ .)

(2) Encased or embedded in concrete

(3) In cinder fill

(4) In underground locations subject to severe corrosive influences as covered in 300.6 and where subject to chemicals for which the assembly is specifically approved

(5) Above ground, except as prohibited in 354.12, where encased in not less than 50 mm (2 in.) of concrete

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 13:49:52 EDT 2021

Committee Statement

Committee Statement: As per direction of the Correlating Committee, this action was to correct a style manual reference violation of Section 4.1.4 of the 2020 NEC Style Manual which prohibits reference to the entire article.

Response Message: SR-8135-NFPA 70-2021

Public Comment No. 1359-NFPA 70-2021 [Section No. 354.10]

Second Revision No. 8131-NFPA 70-2021 [Section No. 356.10]

356.10 Uses Permitted.

LFNC shall be permitted to be used in exposed or concealed locations for the following purposes:

(1) Where flexibility is required for installation, operation, or maintenance.

(2) Where protection of the contained conductors is required from vapors, machine oils, liquids, or solids.

(3) For outdoor locations where listed and marked as suitable for the purpose.

(4) For direct burial where listed and marked for the purpose.

(5) Installed in lengths longer than 1.8 m (6 ft) where secured in accordance with 356.30.

(6) ~~Type~~ LFNC-B as a listed manufactured prewired assembly, metric designator 16 through 27 (trade size ½ through 1) conduit.

(7) For encasement in concrete where listed for direct burial and installed in compliance with 356.42.

(8) In locations subject to severe corrosive influences as covered in 300.6 and where subject to chemicals for which the materials are specifically approved.

(9) Conductors or cables rated at a temperature higher than the listed temperature rating of LFNC shall be permitted to be installed in LFNC, provided the conductors or cables are not operated at a temperature higher than the listed temperature rating of the LFNC.

Informational Note: Extreme cold can cause some types of nonmetallic conduits to become brittle and therefore more susceptible to damage from physical contact.

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 12:59:30 EDT 2021

Committee Statement

Committee Statement: "Type" has been removed from the new definitions found in Article 100 for conduit and tubings. This editorial deletion correlates with the definition and clarifies the acronym for usability.

Response Message: SR-8131-NFPA 70-2021

Second Revision No. 8132-NFPA 70-2021 [Section No. 356.30]

356.30 Securing and Supporting.

~~Type~~ LFNC shall be securely fastened and supported in accordance with one of the following:

(1) Where installed in lengths exceeding 1.8 m (6 ft), the conduit shall be securely fastened at intervals not exceeding 900 mm (3 ft) and within 300 mm (12 in.) on each side of every outlet box, junction box, cabinet, or fitting. Where used, cable ties shall be listed for the application and for securing and supporting.

(2) Securing or supporting of the conduit shall not be required where it is fished, installed in lengths not exceeding 900 mm (3 ft) at terminals where flexibility is required, or installed in lengths not exceeding 1.8 m (6 ft) from a luminaire terminal connection for tap conductors to luminaires permitted in 410.117(C).

(3) Horizontal runs of LFNC supported by openings through framing members at intervals not exceeding 900 mm (3 ft) and securely fastened within 300 mm (12 in.) of termination points shall be permitted.

(4) Securing or supporting of LFNC shall not be required where installed in lengths not exceeding 1.8 m (6 ft) from the last point where the raceway is securely fastened for connections within an accessible ceiling to a luminaire(s) or other equipment. For the purpose of 356.30, listed liquidtight flexible nonmetallic conduit fittings shall be permitted as a means of support.

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 13:02:21 EDT 2021

Committee Statement

Committee Statement: "Type" has been removed from the new definitions found in Article 100 for conduit and tubings. This editorial deletion correlates with the definition and clarifies the acronym for usability.

Response Message: SR-8132-NFPA 70-2021

Second Revision No. 8159-NFPA 70-2021 [Section No. 358.10(A)]

(A) Exposed and Concealed.

The use of EMT shall be permitted for both exposed and concealed work for the following:

(1) In concrete, in direct contact with the earth ~~or in~~ , in direct burial applications with fittings identified for direct burial, or in areas subject to severe corrosive influences where installed in accordance with 358.10(B)

(2) In dry, damp, and wet locations

(3) In any hazardous (classified) location as permitted by other articles in this *Code*

(3) ~~In direct burial applications when used with fittings listed and identified for direct burial~~

(4) For manufactured wiring systems as permitted in 604.100(A)(2)

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Fri Oct 22 07:59:46 EDT 2021

Committee Statement

Committee Statement: The Second Revision clarifies the direct burial applications and requirements already included in 358.10(A)(1).

Response Message: SR-8159-NFPA 70-2021

Public Comment No. 1819-NFPA 70-2021 [Section No. 358.10(A)]

Public Comment No. 316-NFPA 70-2021 [Section No. 358.10(A)]

Public Comment No. 1688-NFPA 70-2021 [Section No. 358.10(A)]

Second Revision No. 8136-NFPA 70-2021 [Section No. 358.24(B)]

(B) Number in One Run.

The total degrees of bends in a ~~conduit~~ tubing run shall not exceed 360 degrees between pull points.

Submitter Information Verification

Committee: NEC-P08
Submittal Date: Thu Oct 21 14:26:39 EDT 2021

Committee Statement

Committee Statement: EMT is not conduit, it is tubing.
Response Message: SR-8136-NFPA 70-2021

Public Comment No. 1364-NFPA 70-2021 [Section No. 358.24(B)]

Second Revision No. 8134-NFPA 70-2021 [Section No. 362.8]

362.2 ~~Reconditioned~~ Reconditioned Equipment .

ENT ~~cannot~~ shall not be reconditioned.

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 13:22:57 EDT 2021

Committee Statement

Committee Statement: Cannot was revised to “shall not” to align with the Style Manual.

Per the direction of the CC 362.8 is relocated to 362.2.

Response Message: SR-8134-NFPA 70-2021

Public Comment No. 1715-NFPA 70-2021 [Section No. 362.8]

Public Comment No. 1067-NFPA 70-2021 [Section No. 362.8]

Second Revision No. 8151-NFPA 70-2021 [Article 369]

Article 369 Insulated Bus Pipe (IBP)/Tubular Covered Conductors (TCC) Systems

Part I. General

369.1 Scope.

This article covers the use, installation, and construction specifications for insulated bus pipe (IBP), ~~Type IBP~~ systems .

~~Informational Note: IBP is also referred to as tubular covered conductor (TCC).~~

369.2 ~~Definitions~~ Reconditioned Equipment .

IBP and IBP systems shall not be ~~permitted to be~~ reconditioned.

Detail SR-8149

~~**Insulated Bus Pipe (IBP), Type IBP.**~~

~~A cylindrical solid or hollow conductor with a solid insulation system, having conductive grading layers and a grounding layer imbedded in the insulation, and provided with an overall covering of insulating or metallic material~~

~~**IBP Systems.**~~

~~An assembly that includes bus pipe, connectors, fittings, mounting structures, and accessories.~~

369.6 Listing Requirements.

IBP and IBP systems shall be listed.

Part II. Installation

369.10 Uses Permitted.

IBP systems shall be permitted for use on power systems in accordance with the following:

(1) ~~IBP shall be permitted as~~ As exposed runs in accordance with ~~305.7~~ 305.3.

(2) ~~IBP shall be permitted to be installed in~~ In wet or damp locations only when listed for such use.

(3) ~~IBP shall be permitted to be installed~~ Installed through walls, in unbroken lengths. Where IBP penetrates an exterior wall, the entire length that penetrates the wall shall be listed for outdoor use, and the opening in the wall shall be sealed by an approved method.

(4) ~~IBP shall be permitted to be~~ Extended ~~extended~~ vertically through dry floors if totally enclosed in metal where passing through the floor and for a minimum distance of 1.8 m (6 ft) above the floor to provide protection from physical damage.

(5) ~~IBP shall be permitted for~~ For voltages up to and including 35,000 ~~ac volts,~~ volts ac nominal.

369.12 Uses Not Permitted.

IBP systems shall not be used under the following conditions:

(1) In any hazardous (classified) location except as permitted by other articles in this *Code*

(2) For the support of luminaires or other equipment

(3) Where concealed by the building structure

(4) Where accessible to ~~unqualified~~ other than qualified person(s)

369.14 Installation.

IBP systems shall be installed~~, supported, terminated, and tested in accordance with the manufacturer's instructions~~ by qualified persons. All documentation shall be available to the authority having jurisdiction.

369.20 Termination or Connections .

Manufacturer's supplied terminating means shall be used for IBP system connections~~.~~ or terminations. Connections employing dissimilar metals shall be avoided to eliminate the possibility of galvanic action.

Informational Note No. 1: See 110.14(C) for conductor temperature limitations due to termination provisions for installations up to and including 2000 volts.

Informational Note No. 2: See 110.40 for conductor temperature limitations due to termination provisions for installations 2001 volts to 35,000 volts.

~~Informational Note No. 3: Where practicable, connections made up employing dissimilar metals in connections shall be avoided to eliminate the possibility of galvanic action.~~

369.80 Ampacity.

IBP systems shall be used within the marked ampacity of the IBP.

369.90 Temperature Rating.

IBP systems shall be used within the maximum rated conductor temperature.

Part III. Construction Specifications

369.100 Construction.

The IBP conductor shall be aluminum or copper. The bus pipe shall be permitted to be solid or hollow.

369.110 Barriers.

Fire barriers shall be provided where fire walls, floors, or ceilings are penetrated.

Note: See 300.21 for information concerning the spread of fire or products of combustion.

Fire barriers shall be provided where fire walls, floors, or ceilings are penetrated.

Note: See 300.21 for information concerning the spread of fire or products of combustion.

369.120 Marking.

All IBP shall be marked to indicate the following information:

(1) The maximum rated voltage phase-to-phase or phase-to-ground

(2) The maximum rated ampacity

(3) The manufacturer's name, trademark, or other distinctive marking by which the organization responsible for the product can be readily identified

(4) The equivalent AWG size or circular mil area of the conductor

(5) The maximum rated conductor temperature

(6) The rated peak withstand current rating in rms symmetrical amperes or kA

(7) Enclosure type designation, if other than Type 1

(8) Rated short-time withstand current and duration if greater than 2 seconds

Supplemental Information

File Name	Description	Approved

NEC_CMP_8_SR8151_369.docx For Staff Use

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Thu Oct 21 17:09:24 EDT 2021

Committee Statement

Committee Statement: The term “Systems” or “systems” is added throughout the Article 369, along with minor editorial changes to on text structure to address the word addition, in order to clarify that Insulated Bus Pipe (IBP), also known as Tubular Covered Conductor (TCC), IBP/TCC should be treated as a system rather than a standalone product. The term "unqualified" is removed from 369.12 (4) and the terms “size” and “area” are removed from 369.120(4).

Insulated Bus Pipe (IBP)/Tubular Covered Conductors (TCC) and Systems are not permitted to be reconditioned. Therefore, the panel has relocated , retitled and reconsidered the First Revision text to move the text from the 369.8 to 362.2 , retitled the section and simplified the text to simply state "shall not be reconditioned" rather than shall not be permitted to be" per direction from the correlating committee.

Section 369.14 is revised per 110.3(B) the general rule for the installation, testing, and manufacturing instructions for electrical equipment. Section 4.1.1 of the 2020 NEC Style Manual states that the general requirements contained in Chapters 1 through 4 shall not be repeated in other articles of the code.

The word “connections” is added to the title of the section since connections and terminations, which may be one in the same, are being addressed in this rule. Informational Note No. 3 contains a requirement which is not permitted by the NEC Style Manual, so it is relocated to be a new second sentence in 369.20. Additionally the term “made-up” has been removed to improve code language.

for all but the request to add the term “phase-to-phase” in 369.10 (5) on account it being unnecessary since throughout the code nominal voltages are considered to be phase-to phase without the additional text.

clarifying that the "Note" in NEC 369.110 is indeed an "Informational Note." and is consistent with other existing Articles within the code, e.g. the informational note found in Section 368.10.

section 369.14 was revised per 110.3(B) the general rule for the installation, testing, and manufacturing instructions for electrical equipment. Section 4.1.1 of the 2020 NEC Style Manual states that the general requirements contained in Chapters 1 through 4 shall not be repeated in other articles of the code.

Second Revision TG6-5 8151 which added the word “connections” to the title of the section since connections and terminations, which may be one in the same, are being addressed in this rule. Also Informational Note No. 3 which contained a requirement which is not permitted by the NEC Style Manual, was relocated to be a new second sentence in 369.20. Lastly, the term “made-up” was removed to improve code language.

Response Message: SR-8151-NFPA 70-2021

Public Comment No. 1439-NFPA 70-2021 [Article 369]

Public Comment No. 1880-NFPA 70-2021 [Section No. 369.20]

Public Comment No. 76-NFPA 70-2021 [Section No. 369.14]

Public Comment No. 831-NFPA 70-2021 [Global Input]

Public Comment No. 1931-NFPA 70-2021 [Section No. 369.8]

Public Comment No. 129-NFPA 70-2021 [New Definition after Definition: Instrumentation Tray Cable...]

Second Revision No. 8156-NFPA 70-2021 [Article 371]

Article 371 Flexible Bus Systems

Part I. General

371.1 Scope.

This article covers the use and installation requirements of flexible bus systems and associated fittings.

Detail SR-8122

~~371.2 Definitions.~~

~~The definitions in this section shall apply within this article and throughout the *Code* .~~

~~Flexible Bus Systems.~~

~~An assembly of flexible insulated bus, with a system of associated fittings used to secure, support, and terminate the bus.~~

~~Informational Note: Flexible bus systems are engineered systems for a specific site location and are ordinarily assembled at the point of installation from the components furnished or specified by the manufacturer.~~

~~Flexible Insulated Bus.~~

~~A flexible rectangular conductor with an overall insulation.~~

371.6 Listing Requirements.

Flexible bus systems shall be listed.

Part II. Installation

371.10 Uses Permitted.

Flexible bus systems shall be permitted for the following:

(1) Services, feeders, and branch circuits

(2) Indoors

(3) Outdoors where identified for outdoor use

(4) Installed in corrosive, wet, or damp locations where identified for use

(5) Exposed

(6) Behind access panels where the space behind the access panel is not used for air-handling purposes

(7) To penetrate through walls and floors in accordance with 371.18

371.12 Uses Not Permitted.

Flexible bus systems shall not be permitted to be installed in the following:

(1) Hoistways

(2) Where exposed to severe physical damage

(3) Hazardous (classified) locations, unless specifically permitted in Chapter 5

(4) Air-handling spaces

371.14 ~~Engineering Supervision~~ Installation Design .

Flexible bus systems shall be designed and specified for specific installation site applications ~~under engineering supervision~~ by a qualified engineer within the limits of the listing and manufacturer's installation instructions. All documentation shall be available to the authority having jurisdiction .

371.17 Overcurrent Protection.

Overcurrent protection shall be provided in accordance with 371.17(A) through (G).

(A) Rating of Overcurrent Protection — Services.

Flexible bus systems installed for services shall be protected against overcurrent in accordance with 230.90.

(B) Rating of Overcurrent Protection — Feeders.

Flexible bus systems installed as feeders shall be protected against overcurrent in accordance with 215.3.

Exception: The applicable requirements of 240.4 shall be permitted.

(C) Rating of Overcurrent Protection — Branch Circuits.

Flexible bus systems installed as branch circuits shall be protected against overcurrent in accordance with 210.20.

Exception: The applicable requirements of 240.4 shall be permitted.

(D) Transformer Secondary Flexible Bus Systems.

Flexible bus systems installed on a transformer secondary to the disconnect and overcurrent protection device shall be protected from overcurrent in accordance with 240.21(C).

(E) Flexible Bus Systems from Generator Terminals.

Flexible bus systems installed from generator terminals that meet the size requirement in 445.13 shall be permitted to be protected against overload by the generator overload protective device(s) required by 445.12.

(F) Flexible Bus Systems from Battery Terminals.

Flexible bus systems installed for battery systems shall be protected from overcurrent in accordance with 240.21(H).

(G) Reduction in Size of Flexible Bus Systems.

Overcurrent protection shall be required at the point where flexible bus systems are reduced in size.

Exception: For industrial establishments only, omission of overcurrent protection shall be permitted at points where a flexible bus system is reduced in size, provided that the length of the flexible bus system having a reduced size does not exceed 15 m (50 ft) and has a current rating at least equal to one-third the rating or setting of the overcurrent device ahead of the point of connection and provided that such a flexible bus system is free from contact with combustible material.

371.18 Flexible Bus Systems Installation.

Installation of flexible bus systems shall comply with 371.18(A) through (E).

(A) Manufacturer's Installation Instructions.

Flexible bus systems shall be installed under design engineering supervision and in accordance with the manufacturer's instructions, including supporting and securing. All documentation shall be available to the authority having jurisdiction.

(B) Physical Damage.

Flexible bus systems subject to physical damage shall have approved protective means installed.

Informational Note: Typical methods of protecting flexible bus systems from physical damage include suitable barriers, guards, or elevation.

(C) Transversely Routed.

Flexible bus systems shall be permitted to extend transversely through partitions or walls if the section within the wall is continuous and protected against physical damage. Where the flexible bus systems penetrate a fire-resistant-rated wall or partition, the installation shall be made in accordance with 300.21.

(D) Through Dry Floors and Platforms.

Flexible bus systems shall be permitted to extend vertically through dry floors and platforms. Where the flexible bus systems penetrate a fire-resistant-rated floor or ceiling, the installation shall be made in accordance with 300.21.

(E) Through Floors and Platforms in Wet Locations.

Flexible bus systems shall be permitted to extend vertically through floors and platforms in wet locations as follows:

(1) Where there are curbs or other suitable means to prevent waterflow through the floor or platform opening

(2) Where the flexible bus system provides a means to seal the floor penetration

Where the flexible bus systems penetrate a fire-resistant-rated floor or ceiling, the installation shall be made in accordance with 300.21.

371.20 Terminations.

Flexible bus system terminations shall comply with 371.20(A) and (B).

(A) Termination Fittings or Connectors.

Flexible bus systems shall be terminated with fittings or ~~devices~~ connectors listed for flexible bus systems.

Informational Note: See 110.14(C) for conductor temperature limitations due to termination provisions.

(B) Connection to Equipment.

The connection of a flexible bus system to the distribution equipment shall comply with one of the following:

(1) Be listed and marked by the specific distribution equipment as an acceptable means of termination

(2) Be listed and identified for the specific distribution equipment as an acceptable means of termination

(3) Incorporate, as part of the listed flexible bus system, a transition box to interface between the flexible bus system and the distribution equipment

371.30 Securing and Supporting.

Flexible insulated bus conductors shall be supported on identified mounting means at intervals not greater than 900 mm (3 ft) for horizontal runs and 450 mm (1½ ft) for vertical runs unless otherwise permitted by the product listing. Flexible bus systems shall be secured and supported by listed associated fittings in accordance with 371.30(A) through (C).

(A) Associated Fittings.

Associated fittings shall be part of a listed flexible bus system.

(B) Support Brackets.

The support brackets for flexible bus systems shall be secured to the building structure or to other associated fittings that are secured to the building structure.

(C) Support Tray.

Flexible bus systems shall be permitted to be installed in support trays supplied as associated fittings for the listed flexible bus system. Support trays shall not be required to be continuous.

371.40 Short Circuit Current Rating.

Flexible bus systems shall have a short circuit current rating sufficient for the available fault current.

371.60 Grounding.

Conductive associated fitting supports for flexible bus systems shall be bonded together and grounded.

Part III. Construction Specifications

371.120 Marking.

Each section of flexible bus systems shall be marked with the manufacturer's name or trade designation, voltage rating, and current rating. Markings shall be located so as to be visible after installation.

(A) System Nameplate.

A system nameplate shall contain the manufacturer’s name or trademark and the flexible bus system ratings. The ratings shall include the voltage, phase, current rating, short circuit current rating, and applicable environmental ratings. The nameplate shall be installed at each end of the flexible bus system. The nameplate shall be visible after installation.

(B) Associated Fittings.

Associated fittings shall be marked as suitable for flexible bus systems.

(C) Flexible Insulated Bus.

The flexible insulated bus shall be marked along the insulation with the manufacturer’s name or trademark, voltage, ~~current rating~~ manufacturer's part identification , and insulation temperature ratings.

~~**Part IV.** Requirements for Over 1000 Volts, Nominal~~

~~**371.214** Adjacent and Supporting Structures.~~

~~Flexible bus systems shall be installed so that temperature rise from induced circulating currents in adjacent ferrous metal parts will not be hazardous to personnel or constitute a fire hazard.~~

~~**371.216** Neutral Conductor.~~

~~The neutral bus of a flexible bus system, where required, shall be sized to carry all neutral load current, including harmonic currents, and shall have adequate momentary and short-circuit current ratings consistent with system requirements.~~

Submitter Information Verification

Committee: NEC-P08
Submittal Date: Thu Oct 21 17:58:27 EDT 2021

Committee Statement

Committee Statement: This second revision clarifies in 371.14 and 371.18 that qualified design engineering supervision is needed for proper installation of flexible bus systems and that such

installations must remain within the limitations of the listing and manufacturers installation instructions.

Additional language is added to 371.20 to clarify the acceptable termination methods.

This second revision removes the current rating marking requirement from the flexible insulated bus insulation in 371.120(C) to accommodate the possibility of different installation locations, ambient conditions, bundling, and other factors. A marking requirement for the manufacturers part identification is added to assist in correct component identification for the installer and AHJ.As shown in 371.120(A) the listed current rating for the system continues to be marked on the system nameplate.

Part IV Requirements for Over 1000 Volts is removed as the product listing standard does not presently address flexible insulated bus rated over 1000 volts. If the scope is expanded in the future to include such systems additional language is needed to address topics such as shielding, terminations, impulse withstand voltage ratings, rated momentary current, and possibly other installation items.

Response Message: SR-8156-NFPA 70-2021

Public Comment No. 253-NFPA 70-2021 [Section No. 371.120(C)]

Public Comment No. 1894-NFPA 70-2021 [Article 371]

Public Comment No. 1809-NFPA 70-2021 [Section No. 371.120(C)]

Second Revision No. 8180-NFPA 70-2021 [Section No. 392.10(A)]

(A) Wiring Methods.

The wiring methods in Table 392.10(A) shall be permitted to be installed in cable tray systems under the conditions described in their respective articles and sections.

Table 392.10(A) Wiring Methods

Wiring Method	Article
Armored cable: Type AC	320
CATV cables	800 and 820
Class 2 and Class 3 cables	722 and 725
Communications cables	800 and 805
Communications raceways	800
Electrical metallic tubing: ~~Type~~ EMT	358
Electrical nonmetallic tubing: ~~Type~~ ENT	362
Fire alarm cables	722 and 760
Flexible metal conduit: ~~Type~~ FMC	348
Flexible metallic tubing: ~~Type~~ FMT	360
Instrumentation tray cable: Type ITC	~~727~~ 341
Intermediate metal conduit: ~~Type~~ IMC	342
Liquidtight flexible metal conduit: ~~Type~~ LFMC	350
Liquidtight flexible nonmetallic conduit: ~~Type~~ LFNC	356
Metal-clad cable: Type MC	330
Mineral-insulated, metal-sheathed cable: Type MI	332
Network-powered broadband communications cables	800 and 830
Nonmetallic-sheathed cable: Types NM, NMC, and NMS	334
Non–power-limited fire alarm cable	722 and 760
Optical fiber cables	722 and 770
Other factory-assembled, multiconductor control, signal, or power cables that are specifically approved for installation in cable trays	
Power and control tray cable: Type TC	336
Power-limited fire alarm cable	722 and 760
Power-limited tray cable	725
Rigid metal conduit: ~~Type~~ RMC	344
Rigid polyvinyl chloride conduit: ~~Type~~ PVC	352
Reinforced thermosetting resin conduit: ~~Type~~ RTRC	355
Service-entrance cable: Types SE and USE	338
Underground feeder and branch-circuit cable: Type UF	340

Submitter Information Verification

Committee: NEC-P08

Submittal Date: Fri Oct 22 12:22:42 EDT 2021

Committee Statement

Committee Statement:	References to Article 722 were added to Table 392.10(A) as an acceptable wiring method to be installed in Cable Tray. Instrumentation tray cables were relocated to Article 341from 727. “Type” has been removed from the new definitions found in Article 100 for conduit and tubings. The reference to “Type” has been removed for the article in the purview of CMP-8.
Response Message:	SR-8180-NFPA 70-2021

Public Comment No. 908-NFPA 70-2021 [Section No. 392.10(A)]