

ROME T90 Nylon or TWN75 (-10°C)

MTW, THWN or THHN

PVC Insulation, Nylon Jacket, 600 Volts

APPLICATION: General purpose wiring in accordance with the Canadian Electrical Code or the National Electrical Code, maximum conductor temperature of 90°C in dry or damp locations and 75°C in wet locations, 600 volts, for installation in conduit or other recognized raceway. Also used for wiring of machine tools (stranded), appliances, and control circuits not exceeding 600 volts.

STANDARDS:

- 1. C(UL) listed as Type T90 Nylon or TWN75, FT 1 per CSA Std. C22.2 No.
- Listed by UL as Type THHN or THWN per Standard 83, and as Type MTW per Standard 1063 (stranded items).
- 3. Listed by UL as Gasoline and Oil Resistant II.
- Listed by UL as Sunlight Resistant (1/0 AWG and larger, black only).
- 1/0 AWG and larger pass UL and IEEE-383 ribbon burner flame test and are listed For CT Use.
- Listed by UL as 105°C Appliance Wiring Material, 60°C where exposed to oil (stranded items only).

CONSTRUCTION: Annealed uncoated copper conductor, PVC insulation,

nylon jacket, surface printed.

100			
		PVC	Insulation
			1
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Nylon J	acket		Uncoated Copper

Size			ness Mils	Non	ninal am.	CEC A	mpacity*	Approx lb./100		Standard P	ackage				S	то	CK	ITE	MS	(1)		
or kcmil	No. of Strands	PVC Insula- tion	Nylon Jacket	ln.	mm	TWN75 Wet	Nylon Damp or Dry	Net	Ship- ing	Length	Put-up	1	2	3	4	5	6	7	8	9	10	11
			(20 4 Com (1 (1 (1)		•	Solid (T90 Nyl	on or T	WN 75	or THWN or Th	HHN)			_	_		_			_		
14	Solid	15	4	.105	2.67	15	15	16	17 17	500' spls. 2500'	4 per ctn. NR reel	S	S	S	S	SSS	S	S	S	S		S
12	Solid	15	4	.122	3.10	20	20	24	25 26	500' spls. 2500'	4 per ctn NR reel	S	S	SSS	S S	S	S	s s	S	S	S	S
10	Solid	20	4	.153	3.89	30	30	38	39 40	500' spls. 2500'	2 per ctn. NR reel	S	S	s s	S	S	s s	S	S			S
	L				Strand	ed (T9	0 Nylor	or TW	N 75 or	MTW or THW	N or THHN		_	_						_	-	
	19	15	4	.112	2.84	15	15	16	18	500' spls.	4 per ctn.	s	s	s	s	S	s	s	s	s	s	s
14	19	15	4	2	2.0			0.500	25	2500'	NR reel	S	S	S	S	000	S	S	s	S	s	S
12	19	15	4	.130	3.30	20	20	24	25	500' spls.	4 per ctn	s	S	S	S	s	S	S	S	S	S	S
				(FAC.004000					26	2500'	NR reel	S	s	S		s	S	S	S	S	S	S
10	19	20	4	.164	4.17	30	30	38	40	500' spls.	2 per ctn.	S	S	S		S	s	S	S	s	s	S
	1			li sasa					40	2500'	NR reel	S	S	S	S	S	S	S	S			S
8	19	30	5	.220	5.59	45	45	64	71	500'	NR reel	S	S	s	S	S	S	S	S			
	900		127	.256	6.50	65	65	98	99	1000', NS 500'	NR reel NR reel	S	s	s	s	s	s	s	s			
6	19	30	5	.256	0.50	65	03	30	- 55	1000', NS	NRreel	S	0	0	0	•	0	3	٦	1		
	19	40	6	.325	8.26	85	85	155	168	500'	NRreel	S										
4	19	40	0	.020						1000'	NR reel	s	s									
							20.00200			NS	NR reel	S	-	s		s						
3	19	40	6	.353	8.97	100	105	190	204	500', 1000', NS	NR reel	S	1	10000		3355				1		
2	19	40	6	.386	9.80	115	120	236	254	500', 1000'	NR reel	S										
	6000				10000000				040	NS	NR reel	S	S	S		S						
1	19	50	7	.443	11.2	130	140	300	319	1000', NS	NR reel	S										
1/0	19	50	7	.484	12.3	150	155	372	395	1000', NS	NR reel	s				s					1	
2/0	19	50	7	.529	13.4	175	185	462	485	1000', NS	NR reel	S				S				1	1	
3/0	19	50	7	.579	14.7	200	210	575	600	1000', NS	NR reel	S										
4/0	19	50	7	.635	16.1	230	235	716	745	1000', NS	NR reel	S		1		S				1		
250	37	60	8	.703	17.9	255	265	846	905	1000', NS	NR reel	s										
300	37	60	8	.756	19.2	285	295	1005	1060	NS	NR reel	S		1					1	1		
350	37	60	8	.806	20.5	310	325	1165	1225	1000', NS	NR reel	S								1	1	
400	37	60	8	.851	21.6	335	345	1325	1380	NS	NR reel	S	1							1	1	
500	37	60	8	.934	23.7	380	395	1640	1725	1000', NS	NR reel	S		1					1		1	
600	61	70	9	1.03	26.2	420	455	1995	2090	NS	NR reel	S				1				1	1	
750	61	70	9	1.14	29.0	475	500	2480	2580	NS	NR reel	S	1				1			1	1	
1000	61	70	9	1.32	33.5	545	585	3300	1	1	2000	_	1_	_	1	1_	_			_		

^{*}Ampacity in accordance with CEC for not more than three conductors in raceway. As T90 Nylon: 90°C conductor temperature and 30°C ambient in dry or damp locations. As TWN75: 75°C conductor temperature and 30°C ambient in wet locations.

2. When exposed to oil, Type T90 Nylon is limited to 60°C and the 60°C ampacities in the CEC apply.

3. For THHN or THWN ampacitics, refer to Table 310.16 of NEC.

Notes: 1. For 3-wire 120/240 and 120/208 V residential services or subservices, the allowable ampacity for size 6 and 2/0 AWG shall be 60 and 200 amps respectively. In these cases, the 5% adjustment per C.E. Code Rule 8-106 (1) cannot be applied.

⁽¹⁾ Color Code: 1 black, 2 white, 3 red, 4 blue, 5 green, 6 yellow, 7 orange, 8 brown, 9 purple, 10 pink, 11 gray, 12 tan. Information on this sheet subject to change without notice.



Specification

ROME T90 Nylon or TWN75 (-10°C) MTW, THWN or THHN PVC - Nylon, 600 Volts

SCOPE

1.1 This specification describes single conductor Rome T90 Nylon or TWN75 (-10°C), a general purpose building wire insulated with polyvinyl chloride (PVC) and covered with a tough protective sheath of nylon intended for lighting and power circuits at 600 Volts or less, in residential, commercial and industrial buildings. The wire may be operated at 90°C maximum continuous temperature in dry or damp locations and 75°C in wet locations. The wire is C(UL) listed as T90 Nylon or TWN 75 for use in accordance with the Canadian Electrical Code. The wire is also listed by UL as Type THWN or THHN for use in accordance with the National Electrical Code.

2. APPLICABLE STANDARDS

- 2.1 The following standards form a part of this specification to the extent specified herein:
 - 2.1.1 CSA Standard C22.2 No. 75 and Electrical Bulletin No. 1451 for Type T90 Nylon or TWN75, FT 1.
 - 2.1.2 Underwriters Laboratories Standard 83 for Thermoplastic Insulated Wires.
 - 2.1.3 Underwriters Laboratories Standard 1063 for Machine-Tool Wires and Cables (Stranded items only).
 - 2.1.4 Underwriters Laboratories Standard 758 for 105°C Appliance Wiring Materials (Stranded items only).

3. CONDUCTORS

3.1 Conductors shall be solid, Class B or Class C stranded, annealed uncoated copper per applicable CSA and UL standards.

4. INSULATION

- 4.1 Each conductor shall be insulated with PVC and sheathed with nylon complying with requirements of UL Standard 83 for Types THHN or THWN, UL Standard 1063 for Type MTW and CSA C22.2 No. 75 for T90 Nylon. In addition, Types THWN or THHN shall comply with the optional Gasoline and Oil Resistant II rating of UL Standard 83. The insulation on stranded sizes shall also comply with UL requirements for 105°C Appliance Wiring Material.
- 4.2 The average thickness of PVC insulation, for a given conductor size, shall be as specified in the applicable CSA and UL standards. The minimum thickness at any point, of the PVC insulation, shall be not less than 90% of the specified average thickness. The minimum thickness at any point of the nylon sheath, shall be as specified in the applicable CSA and UL Standards. The PVC insulation shall be applied tightly to the conductor and shall be free-stripping.

5. IDENTIFICATION

5.1 The wire shall be identified by surface marking indicating manufacturer's identification, conductor size and metal, voltage rating, UL Symbol, type designations and optional ratings. The wire shall also be identified as C(UL) Type T90 Nylon or TWN75, FT1.

6. TESTS

6.1 Wire shall be tested in accordance with the requirements of UL Standard 83 for Types THWN or THHN wire and for the optional Gasoline and Oil Resistant II listings; as Type MTW to UL Standard 1063 (stranded items); as AWM to UL Standard 758 (stranded items); and as C(UL) Type T90 Nylon or TWN75.

7. LABELS

7.1 The wire shall bear the Underwriters Laboratories labels for Types THWN or THHN (solid conductors) and Type MTW (stranded conductors) and the C(UL) label for Types T90 Nylon or TWN75, FT1.