

**DATE: 03-30-06**

## **PRODUCT SPECIFICATION 14281**

**TYPE:** UL LISTED TYPE TC TRAY CABLE  
600 VOLT, 90°C DRY, 75°C WET  
THHN-THWN PRIMARIES  
OVERALL PVC JACKET

**SIZE:** 8 AWG THRU 2 AWG - 2 TO 5 CONDUCTOR

**I. SCOPE:**

THIS SPECIFICATION COVERS THE CONSTRUCTION REQUIREMENTS FOR FLAME RESISTANT MULTI-CONDUCTOR POWER CABLES, UNDERWRITERS' LABORATORIES, INC. STANDARD 1277 (UL) LISTED AS TYPE TC.

CONSTRUCTION CONSISTS OF STRANDED UNCOATED ANNEALED COPPER CONDUCTORS INSULATED WITH POLYVINYL CHLORIDE AND NYLON JACKETED. THE INSULATED/JACKETED CONDUCTORS ARE CABLED TOGETHER, WITH FILLERS AND BINDER TAPE, AND JACKETED WITH A BLACK, FLAME RESISTANT VW-1 POLYVINYL CHLORIDE. 8 - 2 AWG TWO CONDUCTOR CABLES MAY BE FLAT PARALLEL.

**USE:**

SUITABLE FOR USE IN CABLE TRAYS, RACEWAYS, SUPPORTED BY A MESSENGER OR INSTALLED BY DIRECT BURIAL, FOR VOLTAGE RATINGS NOT EXCEEDING 600 VOLTS, AT CONDUCTOR TEMPERATURES NOT EXCEEDING 90°C (DRY LOCATIONS) OR 75°C (WET LOCATIONS).

THESE CABLES SHALL CONFORM TO (UL) TYPE TC POWER AND CONTROL CABLE REQUIREMENTS AND NATIONAL ELECTRICAL CODE, ARTICLE 336, 392, 500 AND 501.

THESE CABLES ARE SUITABLE FOR DIRECT BURIAL AND PASS THE UL 1277 FLAME TEST.

**II. CONSTRUCTION DATA:**

**A. PRIMARY INSULATED CONDUCTORS:**

1. THE INDIVIDUAL PVC INSULATED-NYLON JACKETED CONDUCTORS ARE UL LISTED TYPE THHN/THWN.

**PS-14281**

**DATE: 03-30-06**

2. CONDUCTORS CONSIST OF CLASS B STRANDED, UNCOATED ANNEALED COPPER PER UL STANDARD 83 AND ASTM B-3/B-8/B787 REQUIREMENTS.
  3. EACH CONDUCTOR IS CONCENTRICALLY INSULATED WITH BLACK POLYVINYL CHLORIDE (PVC) CONFORMING TO UL REQUIREMENTS FOR THE ABOVE TYPE RATINGS.
  4. INSULATION JACKET: A BLACK POLYAMIDE (NYLON) JACKET IS EXTRUDED OVER THE PRIMARY INSULATION.
  5. COLOR CODE: THE NYLON JACKET SHALL BE PRINTED USING WHITE INK WITH ITS CONDUCTOR NUMBER ("1-ONE", "2-TWO", ETC.) PER ICEA S-61-402, APPENDIX K, METHOD 4. OTHER COLOR CODES OR PIGMENTED COMPOUNDS MAY BE USED WHEN SPECIFICALLY REQUESTED.
- B. CABLE ASSEMBLY : THE APPLICABLE NUMBER OF CONDUCTORS ARE CABLED TOGETHER WITH FILLERS AND BINDER TAPE.
- C. OUTER JACKET: A BLACK FLAME RESISTANT VW-1 RATED POLYVINYL CHLORIDE (PVC) JACKET IS APPLIED OVER THE ASSEMBLY.
- D. JACKET PRINT: "(SIZE) AWG (OR KCMIL) (NO. OF CDRS.) TYPE TC THHN OR THWN CDRS. SUNLIGHT RESISTANT 600V. A.I.W. CORP. (UL) DIRECT BURIAL (SEQUENTIAL FOOTAGE)"
- E. TESTING: THESE CABLES SHALL BE TESTED PHYSICALLY AND ELECTRICALLY IN ACCORDANCE WITH PROCEDURES AS OUTLINED BY UNDERWRITERS' LABORATORIES STANDARD 1277 FOR TYPE TC POWER AND CONTROL TRAY CABLES.

**III. DIMENSIONAL DATA:**

SIZE	NO. COND.	STYLE	NUMBER OF STRANDS	INSULATION WALL PVC/NYLON (MILS)	NOMINAL PVC JACKET WALL (MILS)	NOMINAL DIAMETER (INCHES)
8 AWG	2/C	FLAT	19	30/5	60	.340 X .560
	2/C	RND.	19	30/5	60	.560
	3/C	RND.	19	30/5	60	.595
	4/C	RND.	19	30/5	60	.655
	5/C	RND.	19	30/5	60	.715
6 AWG	2/C	FLAT	19	30/5	60	.380 X .640
	2/C	RND.	19	30/5	60	.640
	3/C	RND.	19	30/5	60	.675
	4/C	RND.	19	30/5	60	.745
	5/C	RND.	19	30/5	60	.820
4 AWG	2/C	FLAT	19	40/6	60	.450 X .780
	2/C	RND.	19	40/6	60	.780
	3/C	RND.	19	40/6	80	.870
	4/C	RND.	19	40/6	80	.955
	5/C	RND.	19	40/6	80	1.050
3 AWG	2/C	FLAT	19	40/6	80	.520 X .875
	2/C	RND.	19	40/6	80	.875
	3/C	RND.	19	40/6	80	.930
	4/C	RND.	19	40/6	80	1.020
2 AWG	2/C	FLAT	19	40/6	80	.550 X .940
	2/C	RND.	19	40/6	80	.940
	3/C	RND.	19	40/6	80	1.000
	4/C	RND.	19	40/6	80	1.110