

## ENERGEX® THHN/THWN-2/MTW

PVC/Nylon Cable, Copper Conductors, 600 Volts, 90°C dry rated - LEAD FREE

### Description

#### Application

Nexans ENERGEX® THHN/THWN-2/MTW\* is a general purpose wiring product for use in power, lighting and control circuits. It can be used in conduit, ducts and trays for service feeders and branch circuits in industrial and commercial installations. When used in accordance with the National Electrical Code (NEC) THHN/THWN-2 is suitable for use in wet and dry locations, at conductor temperatures not exceeding 90°C or for use in oil or coolants at conductor temperatures not exceeding 75°C. THHN/THWN-2 is gasoline and oil resistant II. When used as Machine Tool Wire (MTW) it is rated at 90°C in dry locations and 60°C in wet locations or when exposed to oil or coolants.

Nexans THHN/THWN-2/MTW wire is LEAD FREE and RoHS compliant.

#### Construction

##### Conductor:

Solid bare, annealed copper per ASTM B3.

Stranded bare annealed copper per ASTM B3 and ASTM B787 for sizes #14, 12, 10 and 8 AWG and ASTM B8 for sizes #6 AWG and larger.

##### Insulation:

Color coded polyvinyl chloride (PVC), heat, moisture and flame retardant compound per UL 83 and UL 1063.

##### Jacket:

A tough abrasion resistant polyamide (Nylon) jacket,

#### Specifications

- Nexans ENERGEX ® THHN/THWN-2 or MTW meets or exceeds all applicable ASTM specifications
- UL 83: Thermoplastic-Insulated Wires and Cables
- UL Standard 1063: Machine-Tool Wires and Cables (stranded cables only)
- CSA 22.2 No.75
- NEMA WC70/ICEA S-95-658
- Federal Specification A-A-59544 and requirements of the NEC.
- #14 AWG through 750 kcmil are rated VW-1.
- Sizes 1/0 and larger are listed for CT use
- Black sizes 1/0 AWG and larger are sunlight resistant
- Voltage rating - 600 volts.

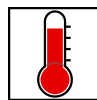
#### Surface Print Legend (example)

NEXANS-C 500 kcmil (253mm<sup>2</sup>) TYPE MTW OR THHN OR THWN-2 GR II SR FOR CT USE VW-1 600V (UL) LEAD FREE (MFG. DATE)



#### Standards

National UL 1063; UL 83



Maximum operating temperature  
90 °C

## ENERGEX® THHN/THWN-2/MTW

**Characteristics**

<b>Construction characteristics</b>	
Conductor material	Copper
<b>Electrical characteristics</b>	
Maximum operating voltage	600 V
<b>Usage characteristics</b>	
Maximum operating temperature	90 °C

**ENERGEX® THHN/THWN-2/MTW Copper**

Conductor Size AWG/kcmil	PVC Insulation Thickness		Nylon Jacket Thickness		Nominal Diameter		Approximate Net Cable Weight		Ampacity*		
	mils	mm	mils	mm	inches	mm	lbs/kft	kg/km	60°C	75°C	90°C
14 (1)	15	0.38	4	0.10	0.11	2.79	15	22.3	15	15	15
12 (1)	15	0.38	4	0.10	0.12	3.05	23	34.2	20	20	20
10 (1)	20	0.51	4	0.10	0.15	3.81	37	53.6	30	30	30
14 (19)	15	0.38	4	0.10	0.11	2.79	16	23.8	15	15	15
12 (19)	15	0.38	4	0.10	0.13	3.79	24	35.7	20	20	20
10 (19)	20	0.51	4	0.10	0.17	4.32	39	58.0	30	30	30
8 (19)	30	0.76	5	0.13	0.22	5.59	63	93.7	40	50	55
6 (19)	30	0.76	5	0.13	0.26	6.60	98	145	55	65	75
4 (19)	40	1.01	6	0.15	0.33	8.38	157	234	70	85	95
3 (19)	40	1.01	6	0.15	0.36	9.14	193	287	85	100	110
2 (19)	40	1.01	6	0.15	0.39	9.91	240	357	95	115	130
1 (19)	50	1.27	7	0.18	0.43	10.9	300	446	110	130	150
1/0 (19)	50	1.27	7	0.18	0.47	12.0	376	560	125	150	170
2/0 (19)	50	1.27	7	0.18	0.52	13.2	467	695	145	175	195
3/0 (19)	50	1.27	7	0.18	0.57	14.5	581	864	165	200	225
4/0 (19)	50	1.27	7	0.18	0.64	16.0	724	1077	195	230	260
250 (37)	60	1.52	8	0.20	0.69	17.4	855	1272	215	255	290
300 (37)	60	1.52	8	0.20	0.76	19.3	1022	1521	240	285	320
350 (37)	60	1.52	8	0.20	0.79	20.1	1191	1772	260	310	350
400 (37)	60	1.52	8	0.20	0.85	21.6	1345	2001	280	335	380
500 (37)	60	1.52	8	0.20	0.94	23.9	1668	2482	320	380	430
600 (61)	70	1.78	9	0.23	1.10	27.9	1994	2967	355	420	475
750 (61)	70	1.78	9	0.23	1.16	29.5	2465	3668	400	475	535

60°C - When terminated to equipment for circuits rated 100 amperes or less or marked for conductor sizes #14 through #1 AWG. For MTW in wet locations or when exposed to oil or coolant.

75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than size #1 AWG. THWN-2 when exposed to oil or coolant.

90°C - THHN dry locations. THWN-2 wet or dry locations. For ampacity derating purposes.

Available colors: Black, White, Red, Blue, Green, Yellow, Brown, Orange, Purple, Gray, Pink.

\* Ampacity in accordance with Table 310-16 of NEC for copper conductors at 30°C ambient temperature.

\*\* Corrections have been done according to NEC Article 240.4(D) on overcurrent protection for #14, #12 and #10 AWG.

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**ENERGEX® THHN/THWN-2/MTW**

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**Selling delivery information****Product Features**

- Sizes #8 AWG - 600 kcmil available in various colors from stock
- Cables are UL listed as Type THHN/THWN-2/MTW\*
- Meets UL VW-1 flame test requirements
- CT rated for sizes 1/0 AWG and larger
- Black 1/0 AWG and larger is sunlight resistant
- High heat and moisture resistant
- THWN-2 90°C rated for dry and wet locations
- Gasoline and Oil Resistant II
- Small diameter for improved conduit fill
- LEAD FREE and RoHS compliant

**Packaging**

- #14 & 12 AWG: 4 x 500' spools (2000' per carton) or 2500' reel
- #10 AWG: 2 x 500' spools (1000' per carton) or 2500' reel
- #8 AWG - 350 kcmil: 500', 1000', 2500' or 5000' reel
- 400 kcmil - 500 kcmil: 500', 1000', or 2500' reel
- 600 kcmil - 750 kcmil: 500' reel

\* Only stranded cables are MTW listed per UL 1063.