

# THHN/THWN/TWN75/T90



600 Volts

Copper Conductor

Thermoplastic Insulation/Nylon Sheath Heat, Moisture, Gasoline, and Oil Resistant<sup>1</sup>

Sizes 8 AWG and Larger Rated THWN-2 All Stranded Sizes Rated MTW and THWN

Sizes 14 Through 6 AWG Rated AWM (105°C) Sizes 14 Through 1 AWG Rated VW-1

Size 1/0 AWG and Larger Listed for CT Use Black Size 2 AWG and Larger Listed Sunlight-Resistant

## APPLICATIONS Suitable for use as follows:

- Southwire Type THHN or THWN-2\* conductors are primarily used in conduit and cable trays for services, feeders, and branch circuits in commercial or industrial applications as specified in the National Electrical Code<sup>2</sup>
- When used as Type THHN, conductor is suitable for use in dry locations at temperatures not to exceed 90°C
- When used as Type THWN-2\*, conductor is suitable for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C when exposed to oil or coolant
- When used as Type MTW, conductor is suitable for use in wet locations or when exposed to oil or coolant at temperatures not to exceed 60°C or dry locations at temperatures not to exceed 90°C (with ampacity limited to that for 75°C conductor temperature per NFPA 79)
- Conductor temperatures not to exceed 105°C in dry locations when rated AWM and used as appliance wiring material. Voltage for all applications is 600 volts

## STANDARDS & REFERENCES

Southwire Type THHN or THWN-2\* or MTW (also AWM) meets or exceeds all applicable ASTM specifications, UL Standard 83, UL Standard 1063 (MTW), Federal Specification A-A-59544, and requirements of the National Electrical Code.

## CONSTRUCTION

- Southwire Type THHN or THWN-2\* or MTW copper conductors are annealed (soft) copper, insulated with a tough heat and moisture resistant polyvinyl chloride (PVC), over which a nylon (polyamide) or UL-listed equal jacket is applied
- Available in black, white, red, blue, green, yellow, brown, orange, and gray; some colors standard, some subject to economic order quantity
- Conductor sizes 2 AWG and larger listed and marked sunlight-resistant in black only

## SPECIFICATIONS

- **MTW or THHN or THWN-2**  
Conductors shall be UL-listed Type MTW or THHN or THWN-2\* gasoline and oil resistant II, suitable for operations at 600 volts as specified in the National Electrical Code. Sizes 14 through 1 AWG shall be rated VW-1, larger sizes shall be listed for CT use. Sizes 2 AWG and larger listed and marked sunlight-resistant in black only. Conductors shall be annealed copper, insulated with high-heat and moisture resistant PVC, jacketed with abrasion, moisture, gasoline, and oil resistant nylon or listed equivalent, as manufactured by Southwire Company or approved equal.
- **AWM**  
Conductors shall be UL-listed Type THHN or THWN-2\* or MTW or AWM, suitable for operation at 600 volts at conductor temperatures not to exceed 105°C.

\*rated -2 for 8 AWG and larger only

<sup>1</sup>Oil and gasoline resistant II as defined by Underwriters Laboratories

<sup>2</sup>2005 Edition



greenSpec™  
RoHS Compliant



# COPPER CONDUCTORS

THHN/THWN/TWN75/T90

## WEIGHTS, MEASUREMENTS AND PACKAGING

CONDUCTOR		INSULATION THICKNESS (mils)	JACKET THICKNESS (mils)	NOMINAL O.D. (mils)		APPROX. NET WEIGHT PER 1000 FT. (lbs)		ALLOWABLE AMPACITIES†			STANDARD PACKAGE
SIZE (AWG or kcmil)	NUMBER OF STRANDS			SOL.	STR.	SOL.	STR.	60°C	75°C	90°C	
14	19	15	4	102	109	15	16	15	15	15	DNFP
12	19	15	4	119	128	23	24	20	20	20	DNFP
10	19	20	4	150	161	37	38	30	30	30	DQFP
8	19	30	5	--	213	--	62	40	50	55	FP
6	19	30	5	--	249	--	95	55	65	75	EP
4	19	40	6	--	318	--	152	70	85	95	C
3	19	40	6	--	346	--	188	85	100	110	BC
2	19	40	6	--	378	--	234	95	115	130	C
1	19	50	7	--	435	--	299	110	130	150	B
1/0	19	50	7	--	474	--	371	125	150	170	B
2/0	19	50	7	--	518	--	461	145	175	195	B
3/0	19	50	7	--	568	--	574	165	200	225	B
4/0	19	50	7	--	624	--	717	195	230	260	B
250	37	60	8	--	694	--	850	215	255	290	B
300	37	60	8	--	747	--	1011	240	285	320	B
350	37	60	8	--	797	--	1173	260	310	350	B
400	37	60	8	--	842	--	1333	280	335	380	B
500	37	60	8	--	926	--	1653	320	380	430	B
600	61	70	9	--	1024	--	1985	355	420	475	C
750	61	70	9	--	1126	--	2462	400	475	535	C
1000	61	70	9	--	1275	--	3254	455	545	615	C

Solid construction available in sizes 14 through 10 AWG as Types THHN or THWN or AWM only. Sizes 14 through 6 AWG also suitable for 105°C appliance wiring material (AWM). Sizes 14 and 12 AWG contain four 500 ft. spools per carton. Size 10 AWG contains two 500 ft. spools per carton.

†Allowable ampacities shown are for general use as specified by the National Electrical Code, 2005 Edition, section 310.15 unless the equipment is marked for use at higher temperatures the conductor ampacity shall be limited to the following:

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

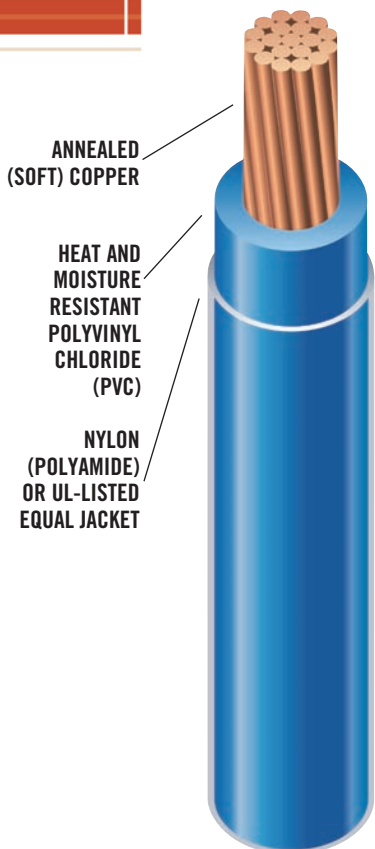
75°C - When terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than size 1 AWG. THWN-2 when exposed to oil or coolant. MTW dry locations.

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

### STANDARD PACKAGE CODES

- B - 1000 ft. reel
- C - 500 ft. reel
- D - 2500 ft. spool
- E - 1000 ft. spool
- F - 500 ft. spool
- N - 2000 ft. carton
- Q - 350 ft. carton
- P - Drum

# THHN/THWN/TWN75/T90



600 Volts

Copper Conductor

Thermoplastic Insulation/Nylon Sheath Heat, Moisture, Gasoline, and Oil Resistant<sup>1</sup>

Sizes 8 AWG and Larger Rated THWN-2 All Stranded Sizes Rated MTW and THWN

Sizes 14 Through 6 AWG Rated AWM (105°C) Sizes 14 Through 1 AWG Rated VW-1

Size 1/0 AWG and Larger Listed for CT Use Black Size 2 AWG and Larger Listed Sunlight-Resistant

## APPLICATIONS Suitable for use as follows:

- Southwire Type THHN or THWN-2\* conductors are primarily used in conduit and cable trays for services, feeders, and branch circuits in commercial or industrial applications as specified in the National Electrical Code<sup>2</sup>
- When used as Type THHN, conductor is suitable for use in dry locations at temperatures not to exceed 90°C
- When used as Type THWN-2\*, conductor is suitable for use in wet or dry locations at temperatures not to exceed 90°C or not to exceed 75°C when exposed to oil or coolant
- When used as Type MTW, conductor is suitable for use in wet locations or when exposed to oil or coolant at temperatures not to exceed 60°C or dry locations at temperatures not to exceed 90°C (with ampacity limited to that for 75°C conductor temperature per NFPA 79)
- Conductor temperatures not to exceed 105°C in dry locations when rated AWM and used as appliance wiring material. Voltage for all applications is 600 volts

## STANDARDS & REFERENCES

Southwire Type THHN or THWN-2\* or MTW (also AWM) meets or exceeds all applicable ASTM specifications, UL Standard 83, UL Standard 1063 (MTW), Federal Specification A-A-59544, and requirements of the National Electrical Code.

## CONSTRUCTION

- Southwire Type THHN or THWN-2\* or MTW copper conductors are annealed (soft) copper, insulated with a tough heat and moisture resistant polyvinyl chloride (PVC), over which a nylon (polyamide) or UL-listed equal jacket is applied
- Available in black, white, red, blue, green, yellow, brown, orange, and gray; some colors standard, some subject to economic order quantity
- Conductor sizes 2 AWG and larger listed and marked sunlight-resistant in black only

## SPECIFICATIONS

- **MTW or THHN or THWN-2**  
Conductors shall be UL-listed Type MTW or THHN or THWN-2\* gasoline and oil resistant II, suitable for operations at 600 volts as specified in the National Electrical Code. Sizes 14 through 1 AWG shall be rated VW-1, larger sizes shall be listed for CT use. Sizes 2 AWG and larger listed and marked sunlight-resistant in black only. Conductors shall be annealed copper, insulated with high-heat and moisture resistant PVC, jacketed with abrasion, moisture, gasoline, and oil resistant nylon or listed equivalent, as manufactured by Southwire Company or approved equal.
- **AWM**  
Conductors shall be UL-listed Type THHN or THWN-2\* or MTW or AWM, suitable for operation at 600 volts at conductor temperatures not to exceed 105°C.

\*rated -2 for 8 AWG and larger only

<sup>1</sup>Oil and gasoline resistant II as defined by Underwriters Laboratories

<sup>2</sup>2005 Edition



greenSpec™  
RoHS Compliant



## COPPER CONDUCTORS

THHN/THWN/TWN75/T90

### WEIGHTS, MEASUREMENTS AND PACKAGING

CONDUCTOR		INSULATION THICKNESS (mils)	JACKET THICKNESS (mils)	NOMINAL O.D. (mils)		APPROX. NET WEIGHT PER 1000 FT. (lbs)		ALLOWABLE AMPACITIES†			STANDARD PACKAGE
SIZE (AWG or kcmil)	NUMBER OF STRANDS			SOL.	STR.	SOL.	STR.	60°C	75°C	90°C	
14	19	15	4	102	109	15	16	15	15	15	DNFP
12	19	15	4	119	128	23	24	20	20	20	DNFP
10	19	20	4	150	161	37	38	30	30	30	DQFP
8	19	30	5	--	213	--	62	40	50	55	FP
6	19	30	5	--	249	--	95	55	65	75	EP
4	19	40	6	--	318	--	152	70	85	95	C
3	19	40	6	--	346	--	188	85	100	110	BC
2	19	40	6	--	378	--	234	95	115	130	C
1	19	50	7	--	435	--	299	110	130	150	B
1/0	19	50	7	--	474	--	371	125	150	170	B
2/0	19	50	7	--	518	--	461	145	175	195	B
3/0	19	50	7	--	568	--	574	165	200	225	B
4/0	19	50	7	--	624	--	717	195	230	260	B
250	37	60	8	--	694	--	850	215	255	290	B
300	37	60	8	--	747	--	1011	240	285	320	B
350	37	60	8	--	797	--	1173	260	310	350	B
400	37	60	8	--	842	--	1333	280	335	380	B
500	37	60	8	--	926	--	1653	320	380	430	B
600	61	70	9	--	1024	--	1985	355	420	475	C
750	61	70	9	--	1126	--	2462	400	475	535	C
1000	61	70	9	--	1275	--	3254	455	545	615	C

Solid construction available in sizes 14 through 10 AWG as Types THHN or THWN or AWM only. Sizes 14 through 6 AWG also suitable for 105°C appliance wiring material (AWM). Sizes 14 and 12 AWG contain four 500 ft. spools per carton. Size 10 AWG contains two 500 ft. spools per carton.

†Allowable ampacities shown are for general use as specified by the National Electrical Code, 2005 Edition, section 310.15 unless the equipment is marked for use at higher temperatures the conductor ampacity shall be limited to the following:

60°C - When terminated to equipment for circuits rated 100 amperes or less or marked for size 14 through 1 AWG conductors. MTW 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. MTW dry locations.

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

#### STANDARD PACKAGE CODES

- B - 1000 ft. reel
- C - 500 ft. reel
- D - 2500 ft. spool
- E - 1000 ft. spool
- F - 500 ft. spool
- N - 2000 ft. carton
- Q - 350 ft. carton
- P - Drum