

# VW-1 USE-2 or RHW-2 or RHH

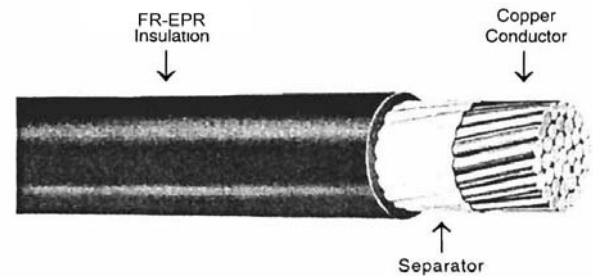
FR-EPR Insulation, 600 Volts

**APPLICATION:** General purpose wiring for lighting and power-residential, commercial, industrial buildings in accordance with the National Electrical Code and for other general purpose wiring applications. Suitable for use in circuits not exceeding 600 volts at conductor temperatures not exceeding 90°C in wet or dry locations. May be installed in raceway, cable tray, direct burial and aerial installations.

**STANDARDS:**

1. Listed by UL as Type USE-2 (90°C wet or dry) per Standard 854 for Service Entrance Cables.
2. Listed by UL as Types RHW-2 (90°C wet or dry) or RHH (90°C dry) per Standard 44.
3. All sizes carry the VW-1 flame test designation.
4. Cables are UL listed as Sunlight Resistant (1/0 AWG and larger, black only).
5. Sizes 1/0 AWG and larger pass UL and IEEE-383 ribbon burner flame test and are UL listed For CT Use.
6. Conforms to ICEA S-95-658/NEMA WC70, utilizing Column A thicknesses.
7. Conforms to Federal Specification J-C-30B.

**CONSTRUCTION:** Annealed copper conductor, FR-EPR thermosetting flame-retardant ethylene-propylene-rubber insulation, surface printed.



USAWC Part #	Size AWG or kcmil	No. of Strands	Insulation Thickness Mils	Nom. Diam. Inches	Weight lbs/ 1000 ft		Ampacity	
					Net	Copper	90°C * USE-2 RHW-2 RHH	75°C** USE RHW
							Solid	
14-01SOLFREP	14	Solid	45	.16	24	12	25	20
12-01SOLFREP	12	Solid	45	.18	32	20	30	25
10-01SOLFREP	10	Solid	45	.20	46	31	40	35
<b>Stranded</b>								
12-01FREP	12	7	45	.19	33	20	30	25
10-01FREP	10	7	45	.21	47	32	40	35
8-01FREP	8	7	60	.27	75	51	55	50
6-01FREP	6	7	60	.30	110	81	75	65
4-01FREP	4	7	60	.35	160	129	95	85
3-01FREP	3	7	60	.38	198	163	110	100
2-01FREP	2	7	60	.41	245	205	130	115
1-01FREP	1	19	80	.49	320	258	150	130
1/0-01FREP	1/0	19	80	.53	390	326	170	150
2/0-01FREP	2/0	19	80	.57	485	411	195	175
3/0-01FREP	3/0	19	80	.63	600	518	225	200
4/0-01FREP	4/0	19	80	.68	745	653	260	230
250-01FREP	250	37	95	.76	890	772	290	255
300-01FREP	300	37	95	.81	1050	926	320	285
350-01FREP	350	37	95	.86	1215	1081	350	310
400-01FREP	400	37	95	.91	1375	1235	380	335
500-01FREP	500	37	95	.99	1700	1544	430	380
600-01FREP	600	61	110	1.10	2065	1853	475	420
750-01FREP	750	61	110	1.20	2550	2316	535	475
1000-01FREP	1000	61	110	1.35	3330	3088	615	545

\*AMPACITY in accordance with NEC for not more than three conductors. AS RHW-2: in raceway, 90 C conductor temperature and 30 C ambient in wet or dry locations. As RHH: in raceway, 90 C conductor temperature and 30 C ambient in dry locations. As USE-2: direct burial, 90 C conductor temperature and 30 C ambient in wet locations.

\*\*AMPACITY in accordance with NEC for not more than three conductors. AS RHW: in raceway, 75 C conductor temperature and 30 C ambient in wet or dry locations: As USE: direct burial, 75 C conductor temperature and 30 C ambient in wet locations.

## Specification

### VW-1 USE-2 or RHW-2 or RHH

### FR-EPR Insulation, 600 Volts

#### 1. SCOPE

- 1.1 This specification describes single conductor FR-EPR, Type USE-2 or RHW-2 or RHH, flame-retardant ethylene-propylene-rubber insulated cables for use in circuits not exceeding 600 volts. Cables are listed by UL as Type USE-2 and are recognized for underground use in wet locations at a maximum continuous conductor temperature of 90°C in accordance with Article 338 of the National Electrical Code. The cables are also listed by UL as Type RHH or RHW-2 for general purpose wiring applications at maximum continuous conductor temperature of 90°C in dry locations (RHH) or 90°C in wet or dry locations (RHW-2) and may be installed in air, conduit or other recognized raceways in accordance with Article 310 of the National Electrical Code. All cables comply with UL's VW-1 (Vertical-Wire) Flame Test. Sizes 1/0 AWG and larger may be used in cable tray in accordance with Article 392 of the NEC.

#### 2. APPLICABLE STANDARDS

- 2.1 The following standards form a part of this specification to the extent specified herein:
  - 2.1.1 Underwriters Laboratories Standard 854 for Service Entrance Cables.
  - 2.1.2 Underwriters Laboratories Standard 44 for Rubber-Insulated Wires and Cables.
  - 2.1.3 ICEA Pub. No. S-95-658, NEMA Pub. No. WC70 for Nonshielded Power Cables Rated 2000 Volts or Less.
  - 2.1.4 Federal Specification J-C-30B.

#### 3. CONDUCTORS

- 3.1 Conductors shall be solid and Class B stranded, annealed uncoated copper per UL Standard 854 and 44.

#### 4. SEPARATOR

- 4.1 A suitable separator over the conductor may be used at the option of the manufacturer.

#### 5. INSULATION

- 5.1 Each conductor shall be insulated with FR-EPR, a flame-retardant ethylene-propylene-rubber complying with the physical and electrical requirements of UL Standard 854 for Type USE-2 and UL Standard 44 for Types RHW-2 or RHH and Table 3-7, Class E-2 of ICEA S-95-658. In addition, the FR-EPR insulation shall comply with the For CT Use (sizes 1/0 AWG and larger) and VW-1 flame test ratings of UL Standard 44.
- 5.2 The average thickness of insulation, for a given conductor size, shall be as specified in UL Standard 44 for Types RHH and RHW-2 and Table 3-4, Column A of ICEA. The minimum thickness at any point shall be not less than 90% of the specified average thickness. The insulation shall be applied tightly to the conductor and shall be free-stripping.

#### 6. IDENTIFICATION

- 6.1 The wire shall be identified by surface marking indicating manufacturer's identification, conductor size and metal, voltage rating, UL symbol, VW-1, type designations and Sunlight Resistant For CT Use (1/0 AWG and larger).

#### 7. TESTS

- 7.1 Wire shall be tested in accordance with the requirements of UL Standard 854 for Type USE-2, UL Standard 44 for Types RHW-2 or RHH and ICEA S-95-658.

#### 8. LABELS

- 8.1 The wire shall bear the Underwriters Laboratories labels for Type USE-2.