Tamper-Resistant and Weather-Resistant Receptacle Markings

Q Section 406.11 of the 2008 *National Electrical Code* (*NEC*) requires receptacles installed in dwelling units to be tamper-resistant. How are Listed tamper-resistant receptacles identified?

A Tamper-resistant receptacles are Listed under the product category Receptacles for Plugs and Attachment Plugs, (RTRT), located on page 284 in the 2007 UL White Book or on UL's Online Certification Directory at www.ul.com/database and enter RTRT at the category code search. The Guide Information for RTRT will be updated in the 2008 White Book to reflect the requirements in dwelling units as indicated below.

The Guide Information for RTRT online states, "Tamper-resistant receptacles are receptacles for use in dwelling units in accordance with the *NEC*, specifically Section 210.52, or in pediatric patient care areas in accordance with Article 517 of the *NEC,* and are identified by the words "Tamper Resistant" or the letters "TR" where they will be visible after installation with the cover plate removed." Tamper-resistant receptacles may be of the general-grade, hospital-grade or isolated-ground type.

Q In the 2008 *NEC*, Section 406.8(A) and (B) require receptacles installed in damp or wet locations to be weather-resistant. How will these be identified? Are they also available in GFCI receptacles?

A Weather-resistant receptacles are Listed under the category Receptacles for Plugs and Attachment Plugs, (RTRT), located on page 284 in the 2007 UL White Book. The UL Guide Information for RTRT in the 2007 White Book does not include the marking information for weather-resistant receptacles; however, the information is available on UL's Online Certification Directory at www.ul.com/database and enter RTRT at the category code search.

The Guide Information for (RTRT) states that "Receptacles for use in wet and damp locations in accordance with Article 406 of the *NEC* are identified by the words "Weather Resistant" or the letters "WR" where they will be visible after installation with the cover plate secured as intended." Weather-resistant receptacles are also available as tamper-resistant receptacles.

Ground-fault circuit-interrupter (GFCI) receptacles are Listed under the category Ground-Fault Circuit Interrupters (KCXS), located on page 170 in the 2007 White Book, or on UL's Online Certification Directory at www.ul.com/database and enter KCXS at the category code search. GFCI receptacles are also available in weather-resistant receptacles as well as weather-resistant and tamper-resistant receptacles.

Q A standard 20-amp rated duplex receptacle has a NEMA 20-A polarized configuration, however, some ground-fault circuit-interrupter (GFCI) receptacles that carry a rating of 20 amps are provided with a 15-A NEMA configuration receptacle. Can you tell me why the GFCI is not the same?

A Ground-fault circuit interrupters are Listed under the category of the same name with the category code (KCXS) located on page 170 in the 2007 UL White Book. Ground-fault circuit-interrupter receptacles are evaluated for compliance with the Standard for Safety for Ground-Fault Circuit Interrupters, UL 943. Presently, UL 943 addresses GFCI ratings in terms of their contact rating. Since the *NEC* permits all 15-ampere receptacles to be used on 20-A branch circuits, the contacts are required to be rated at 20 amps since they open the downstream portion of the branch circuit connected to the load terminals. The Standard requires the contact rating to be marked on the GFCI so that even if the receptacle is a 15-A configuration, it will still have a 20-amp rating. Some manufacturers mark the devices 20-A, 15-A receptacle.

Q I encountered some wire that was marked AWM and was marked with a style number, yet there was no type marking on the insulation that is mentioned in Article 310 in the *NEC*. What is AWM and can I use it for field wiring and comply with the *NEC*?

A AWM is an acronym for Appliance Wiring Material. AWM conductors are UL recognized component wires evaluated for specific uses. Each style number has a specific use. The use statement is found on the style page. The AWM style pages can be located on UL's Online Certification Directory at www.ul.com/database and select Appliance Wiring Material (AWM) from the Specific Searches menu. The style number is optionally printed on the surface of the wire. Recognized components are products that are incomplete in constructions or evaluated on a limited basis and are not intended for field installation, they are intended for factory installation in an overall Listed product, where the Listing engineer of the equipment evaluates the suitability of the type of wiring for the intended use.

AWM is not identified in the *NEC* and is not intended for field installation in accordance with the *NEC*. Conductors identified as AWM may also be identified as a Listed building type conductor if evaluated for both sets of requirements and dually rated. If the conductor is dually rated then it can be installed in accordance with the *NEC* for the specific building type conductor identified on the conductor insulation.