



3M™ Gridlines©

Updates on 3M ACCR

Download the product specifications or the PLS-CADD cable files for 3M ACCR at www.3m.com/accr.

Get information about 3M ACCR data in SAG10® at: www.SAG10.com

Ready to Serve Rural Electric Needs

3M ACCR is on the RUS List of Materials

On June 25, 3M ACCR received “conditional acceptance” from the Rural Utilities Service (RUS) Electric Programs Technical Standards Committee “A” for inclusion on the RUS List of Materials, “Informational Publication 202-1, List of Materials Acceptable

for Use on Systems of USDA Rural Development Electrification Borrowers”. Conditional Acceptance means that, with the electric co-operative’s permission, 3M ACCR may be used in projects financed through RUS Electric Pro-

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3M ACCR Round-wire



3M ACCR Trapwire

Inside this issue:

3M ACCR and SAG10® — <i>3M and South-wire work together to provide data on a full line of conductors</i>	3
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Growing in Tight Spaces

TATA Power Installs 3M ACCR in Mumbai

In 2007, New York City’s population density was approximately 10,500 people per square kilometer. Now more than double that, to over 27,000 people per square kilometer, and you get Mumbai, India.

As the commercial center of one of the fastest growing

economies in the world, both population and electric demand have grown fast. These factors came together when TATA Power, India’s oldest and largest private-sector electric utility, urgently needed to upgrade their 110kV Borivali - Malad and Salsette - Saki tra-



TATA Power
Borivali to Malad
110 kV Line

TATA Power Upgrades in Mumbai (continued)

mission lines north of Mumbai. However, residences had sprung up directly under the lines, and the utility did not want to disturb them, but wanted to maintain or improve clearances over them.

For this unusual upgrade situation, TATA Power chose 3M ACCR 300 kcmil conductor. The ACCR installation more than doubles the capacity from approximately 900 amps to 2,000 amps emergency while providing the needed clearances without changing structures or rights-of-way.

Formerly known as Bombay, the city of occupies a peninsula on India's west coast located on the Arabian Sea, between the Tropic of Cancer and the Equator.

Mumbai is subject to extreme heat and heavy monsoons, making the conductor's renowned reliability under harsh environmental and operating conditions also essential.

TATA Power, part of the India-based, global TATA industrial conglomerate, has 2,323 megawatts of installed generation capacity and 1,200 km of 110 and 220 kV transmission.

The Borivali-Malad and Salsette-Saki upgrades required 200 kilometers (125 miles) of conductor, making this the largest single application of 3M ACCR to date. The Borivali-Malad installation is complete and energized. Installation on Salsette-Saki is planned for this fall.

"The lines were upgraded a few years ago to a bundled ACSR, but it did not keep pace with demand growth," explains Tim Koenig, 3M HCC Director. "3M ACCR provides a long-term solution with minimal impacts on the communities, since the structures did not need to be changed."



The proximity of people and facilities challenges transmission installations in Mumbai for the Borivali to Malad and Salsette to Saki transmission lines.



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See for Yourself

3M ACCR SAG10® Data Files Now Available

Users of SAG10 design software now have access to the 3M™ ACCR data, greatly increasing design options for utilities interested in high performance conductors. SAG10, offered by Southwire®, is a sophisticated, user-friendly Windows-based application containing reliable data that has been the basis for industry sag and tension calculation for more than 80 years.

Besides working on data for SAG10, 3M and Southwire also work together to manufacture 3M ACCR. 3M manu-

factures the aluminum matrix core wires, and Southwire provides high quality aluminum zirconium outer wires. Combined with Southwire's stranding expertise, the final product maximizes ampacity on existing towers and structures; is suitable for a wide range of environments; performs reliably over decades at high temperatures; and uses familiar installation procedures.

Visit www.SAG10.com for more information on Southwire SAG10.



Southwire®

Southwire's Manager of Overhead Transmission Engineering, Mark Lancaster, "Engineers face many challenges as they attempt to maximize the use of new and existing lines, including thinking about design with new conductors, new sizes and tighter design criteria."

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RUS List of Materials

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grams options.

Under the 1936 Rural Electrification Act, the RUS, part of the Department of Agriculture, makes direct loans and loan guarantees to electric co-operative utilities to serve rural customers. These loans and loan guarantees finance the construction of electric distribution, trans-

mission, and generation facilities, as well as demand side management, conservation, and renewable energy systems. Through the Programs, approximately 700 electric system borrowers in 48 states and 3 territories have benefited.

Electric co-ops benefit from using 3M ACCR on transmission upgrade projects because the conductor



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RUS List of Materials (continued)

can increase the amps on a transmission line by as much as 100% or more using the existing structures. Members can save money on improving the reliability of their service. Also, 3M ACCR's unique strength to weight ratio, low sag and modulus properties allow fewer or shorter towers, helping to preserve the natural environment in rural areas. Finally, 3M ACCR's low sag properties can maintain or improve clearances across pasture, grazing and crop lands, as well as above distribution or telecommunication wires.

In order to receive the Technical Committee "A"'s Conditional Acceptance, 3M demonstrated that 3M ACCR was developed and tested according to industry standards, passed all pertinent tests, is in commercial field use, and is manufactured in the United States. In addition, 3M needed to demonstrate that the entire system, including installation procedures and accessories, was readily available and met the RUS requirements.

The approved accessories include specific

HiTemp® compression hardware from ACA Compression Accessories and Thermolign® helical rod hardware from PREFORMED Line Products (PLP).

Conditional Acceptance was granted to obtain experience. And it assures RUS borrowers that their 3M ACCR project will be eligible for financing, given all other RUS Electric Programs requirements are met, the conductor is handled and installed in accordance with 3M's recommendations, and the approved accessories are used.

Your 3M representative will help you select the right combination of conductor and hardware for your project, provide installation training and stay with you through the entire project.

For more information, contact us at accr@mmm.com or

www.3m.com/accr.



Visit www.3m.com/accr to:

- Download the technical brochure on common conductor sizes
- Find lab and field test reports
- Download PLS-CADD cable files
- Link to information on SAG10
- Fill in the Information Request Form to get help on a specific project
- Contact us with questions or comments

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