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RPG ANNUAL CONFERENCE 2013
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of a global economic revival. However, looking at
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Differentiates.

RPG cables at Vadodara participated in the 24th Annual
Convention of Quality Circle Forum of India, Vadodara. Our team
participated with the following two case studies:
- Capacity Utilisation Improvement under Lean Quality Circle
category
- 5S Implementation under 5S category
What is specially noteworthy is that even after participating for
the first time, both the presentations bagged the Gold Award.

WELCOME ABOARD / ON THE MOVE
We have shifted our Vadodara office to the new address as given below:
307-B, 3rd floor, Atlantis, Besides Central Square, Sarabhai Main Road,
Vadodara-390 007.
Mr. Pradeep Chouhan has moved from Jaipur to Jodhpur office.
We welcome Mr. Yogendra Tiwari, "Head – Technical" at Vadodara plant. He has
joined us after his stint with Universal Cables and Cable Corporation of India.
We also welcome Mr. Yogendra Tiwari, "Head – Technical" from Universal Cables and
Cable Corporation of India, Vadodara. He has joined us after his stint with
Universal Cables and Cable Corporation of India.

FROM THE NEWS DESK
GOLD AWARD WON BY OUR TEAM AT VADODARA
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FROM THE ED’s DESK
Dear friends,
Safety, Quality, Environment and CSR are all engaging the minds of business
leaders across India, even as the developed nations consider these as the minimum to
remain engaged with contractors. When we have nationwide registrations for safety
and performance, and we are demanding standards, it is a sign of the
times. Safety and Environment are the pillars of sustainable growth and CSR
is how companies are contributing towards the socioeconomic development of
the society. Many organizations are now embracing CSR as an integral part of their
business strategy to involve the society not just as customers, but also as partners.

We at RPG Cables are constantly looking at new ways of
believing in the future. While focusing on quality, we are also developing
practices and policies to foster a culture of sustainability. Some of these include:
• ISO 14001 Certification (for our Vadodara plant)
• OHSAS 18001 Certification for our Mysore plant
• Vantage Quality Awards under our belt
• JEMI’s Quality Awards under our belt

We, at RPG Cables, are on the forefront of continuous improvement and are
constantly striving to improve the quality of cables supplied to our customers,
and the building blocks of how these are made in our facilities and delivered
to you: because we believe it’s worth it! Additionally, we are also enhancing your
understanding of cables through our “Infinity” Knowledge Sharing programs.
We have now successfully manufactured 220KV 2000 sq mm Copper cables at
Vadodara. These are the largest size cables ever manufactured in India, and are currently under testing. We invite you to visit our facility some time
in the near future to see the cable manufacturing process up-close.

Happy Diwali.

Harsh Goenka
Chairman, RPG Group

“There may be some uncertainty in the days to come. There will also
difficult market situations. We don’t have much of a choice really.
We have to combat it.”
- Harsh Goenka
Chairman, RPG Group

For additional information/details/queries and to subscribe to C2C, please write to:
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RPG Cables (A Division of KEC International Limited),
6th Floor, RPG House, Dr. Annie Besant Road, Worli, Mumbai - 400 030.
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www.rpgcables.com

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RPG CABLES SUCCESSFULLY MANUFACTURED 220kV AT VADODARA

BACKGROUND:
RPG Cables (a division of KEC International Limited) is one of the leading HV & EHV Cable manufacturers in India, with extensive manufacturing facilities at Vadodara, Mysore, Delhi, and Pune. The company has the capability to manufacture EHV cables up to 132 kV grade XLPE Cables with credentials of hundreds of kilometres of EHV Cables up to 132 kV grade supplied to various utilities and industrial customers over the last 20 years.

In view of the future requirements, the Type Test and Qualification (RQ) Test in an international independent test laboratory to prove the capability of the Company and also to enhance its credentials and meet the qualification criteria.

The company has successfully manufactured and tested this cable at its Vadodara plant recently.

SELECTION OF CABLE SIZE:
Specifications of utilities that are currently using 220 kV XLPE cables were reviewed for selection of cable size. Most of the utilities are using 220 kV XLPE cables of 1200 mm² size. RPG Cables is the first manufacturer for EHV cables up to 132 kV grade XLPE cables in India, it was decided to manufacture cables of lower sizes as well. RPG Cables has the capability to manufacture cables of sizes up to 1200 mm² with aluminium/copper conductor. XLPE cables were reviewed for selection of cable size.

REACHING OUT:

MANUFACTURING PROCESS & QUALITY CONTROL:
The Contractor is 2000 VTH, Apple’s Copper Conductors consisting of 5 segments, Polyethylene segments and tools, which were subsequently to a perfect quality stage. The segments were then assembled in a drum machine, which was later placed in a drum barrel. The drum barrel is from M/s Cortinovis, Italy, especially suitable for assembly of conductor segments of utilities cables.

The triple layer XLPE insulation & Semiconducting compounds to avoid eccentricity control and to ensure roundness of the cable, with entry heat treatment (EHT) process for best manufacturing of cables up to 400 kV grade, equipped with Sixty Meter Treatment (SMT) process for best eccentricity control and to ensure roundness of the cable.

The cable was tested for Partial discharge test after termination supplier. Terminations were installed by expert jointers of Porcelain Terminations (Ref: Figure 3). The Porcelain Terminations were tested for electrical tests using 2 Nos. 220 kV Power Transformers (Ref: Figure 5). The Porcelain Terminations were installed by expert jointers of termination supplier.

For electrical type tests, the cable sample was first tested for Partial discharge test. The cable is being followed by Shri Sadhan Pande (Minister for Energy) keenly followed by Shri Sanath Kumar (Minister of Consumer Affairs, Govt. of West Bengal) and Shri Shyam Babu (President Electrical MHEC).

ELECTRICAL CONTRACTORS MEET IN KOLKATA:
A seminar was arranged for the Electrical Contractors’ Association of Eastern India in Kolkata, which was keenly followed by Shri Sanath Kumar (Minister of Consumer Affairs, Govt. of West Bengal) and Shri Shyam Babu (President Electrical MHEC).

KEDON 2013:
We participated in an exhibition in Kenya – KEDON 2013 in September, which is basically a generation company by KEC and KELTRON are the main users of cable. The exhibition presented a great opportunity for us to showcase our products and technology to the East African market. It helped us display our capabilities and access to these utilities. Our stall was visited by the Chairman of KEDON, with his MD and a team of EHV engineers.

Details of Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Details of Test</th>
<th>Standard</th>
<th>Test Requirements</th>
<th>Test Results</th>
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<tr>
<td>DC Voltage</td>
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<td>IEC 62067</td>
<td>50 % of U0</td>
<td>50 % of U0</td>
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<td>DC Voltage</td>
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The cable is now in an evaluation type testing as per IEC 62067.

For electrical type tests, the cable sample was first tested for Partial discharge test. The cable is being followed by Shri Sanath Kumar (Minister of Consumer Affairs, Govt. of West Bengal) keenly followed by Shri Sadhan Pande (Minister for Energy) keenly followed by Shri Sanath Kumar (Minister of Consumer Affairs, Govt. of West Bengal) and Shri Shyam Babu (President Electrical MHEC).
RPG CABLES SUCCESSFULLY MANUFACTURED 220kV AT VADODARA

BACKGROUND:
RPG Cables (a division of KEC International Limited) is one of the leading HV & EHV Cable manufacturers in India, with state-of-the-art manufacturing facilities at Vadodara (Gujarat). The company is an established manufacturer for EHV cables up to 132kV grade supplied to various utilities and industrial customers over the last 20 years. To tap the opportunity of growing demand of 220kV EHV Cables in India, it was decided to manufacture these cables and get them tested for Type Test and the Qualification (PQ) Test in an international independent test laboratory to prove the capability of the Company and also to enhance its credentials and meet the qualification criteria.

The Company has successfully manufactured and tested this cable at its Vadodara plant recently.

SELECTION OF CABLE SIZE:
Specifications of utilities that are currently using 230kV EHV cables were reviewed for selection of cable size and the core conductor cross-section. Considering the future envisaged capacity, the size 2000mm² was chosen and also to enhance its credentials and meet the qualification criteria.

To tap the opportunity of growing demand of 220kV EHV Cables in India, it was decided to manufacture these cables and get them tested for Type Test and the Qualification (PQ) Test in an international independent test laboratory to prove the capability of the Company and also to enhance its credentials and meet the qualification criteria.

The Company has successfully manufactured and tested this cable at its Vadodara plant recently.

CABLE CONSTRUCTION:
Cable components with Copper conductor, Dry Clay Insulation, Corrugated Aluminium metallic sheath with longitudinal and radial water tightness was chosen to manufacture, which is widely preferred construction for EHV cables. Cable components are shown in cross sectional view and photograph below.

MANUFACTURING PROCESS & QUALITY CONTROL:
The Conductor is 2000m/HY Copper Conductor consisting of 5 segments. Profile of segments and tools were well designed to have perfect uniformity of dimensions. The segments were then assembled on a drum tester. Drum tester is from M/s Cortinovis, Italy, especially suited for assembly of conductor segments of utility cables. The drum tester is from M/s Cortinovis, Italy, especially suited for assembly of conductor segments of utility cables. The drum tester consists of casting out various metallic segments one after the other. The segments were then assembled on a drum tester. The drum tester is from M/s Cortinovis, Italy, especially suited for assembly of conductor segments of utility cables.

After de-gassing, further protection layers – longitudinal water barrier, metallic shield, corona protection layer over metallic shield and XLPE outer sheath were applied as per the construction given above. The XLPE insulation was also tested for transparency to check and ensure that insulation is free from voids. The XLPE insulation was also tested for electrical tests using 2 Nos. 220kV Potential Terminations. The Potential Terminations were installed by expert personnel of termination supplier.

Cables were manufactured under strict quality checks and inspections at each stage - right from Raw-Materials to its Process and Finished Cable Stage.

TESTING OF FINISHED CABLE:
After completion of the manufacturing process, the cable that run from end to end was tested for Routine Tests as per International Standard IEC 60287.

The cable is now under intensive Type Testing as per IEC 60287.

For electrical Type Testing, the cable sample was first tested for Straight Test. The cable is being tested for electrical tests using 2 Nos. 220kV Potential Terminations. The Potential Terminations were installed by expert personnel of termination supplier.

Cable was tested for Partial discharge test after installation of terminations and that the test loop was put into Service. The cable shall be sent to an independent test laboratory of international repute for company, KEC's Type and PQ Test on cable system, as per IEC 60287.

REACHING OUT

INFINITY OF INTEGRITY
We organised our customer engagement program “Infinity” at our Vadodara facility in September. More than 50 customers including L&T, GAIL, ABB and a team of contractors from Contractors participated in the event and made it huge success. We had several questions from the users which made it an interactive session. This was a great opportunity for our customers not only to see the largest and the most diversified cables factory in India at Vadodara, but also the only cables factory in India with an Integrated Management System conforming to ISO 9000, 14000 and 80000 standards, and learn about cable design, manufacturing process and installation.

KENGEN 2013
We participated in an Exhibition at Kenya- KENGEN 2013 in September. KENGEN is a basically a generation company, and KFC and KETRANO see the main users of cable. The exhibition presented a great opportunity for us to showcase our products and technology to the East African market. It helped us display our capabilities and access to these clients. Our stall was visited by the Chairman of KENGEN, with his MD and a team of EHV members.

ELECTRICAL CONTRACTORS MEET IN KOCHI
A seminar was arranged for Electrical Contractors’ Association of Eastern India in Kochi, which was keenly followed by Shri Nandan Pandey (Minister of Consumer Affairs, Govt. of West Bengal) and Shri Bhupendra Nath (President Electrical MVSC). The seminar was arranged for Electrical Contractors’ Association of Eastern India in Kochi, which was keenly followed by Shri Nandan Pandey (Minister of Consumer Affairs, Govt. of West Bengal) and Shri Bhupendra Nath (President Electrical MVSC).
RPG CABLES SUCCESSFULLY MANUFACTURED 220kV at VADODARA

BACKGROUND:
RPG Cables (a division of RGI International Limited) is one of the leading H-L & XL Cable manufacturers in India, with state-of-the-art manufacturing facilities at Vadodara and Mysore. The company produces EHV cables for transmission and distribution networks across the country. Its first manufacturing for the cables was up to 132kV grade XLPE Cables, with capacities of huge numbers of VHIs of cables up to 132kV grade replacing the earlier utilities and industrial customers over the last 20 years.

CABLE CONSTRUCTION:
Cable construction is done with outer jacket, made of 2000 mm2 Milliken Copper conductor, which is widely preferred construction for EHV cables. Cable components are shown in cross sectional view and photograph belows.

MANUFACTURING PROCESS & QUALITY CONTROL:
The Contractor is 2000 mm2 Milliken Copper conductor. The manufacturer cables were received for selection of cable sizes up to 1200 mm2 with aluminium/copper conductor. All the cable segments were well designed to have a prefect shape of segments. The triple layer XLPE insulation (Semiconducting conductor Screening of Extruded Semi-conducting layer) was extruded in Completely Dry Cure environment with bottom opening and gravity feeding of XLPE insulation & Semiconducting compounds to avoid any contamination and foreign particles coming into contact with insulation.

This cable also has an X-ray on line dimensional monitoring and display to have better dimensional control.

After the triple layer insulation, the insulated core was kept in de-gassing oven for release of trapped gases (by-product of cross linking process), before the application of metallic sheath.

After degassing of core, the XLPE insulation was tested for transparency to check and ensure that insulation is free from voids. The XLPE insulation was also tested for Red Test to check and ensure cross linking of XLPE insulation. After degassing, further protective layers – longitudinal water barrier, metallic sheath, corrosion protection layer and extruded sheaths were applied as per the construction given above.

Cables were manufactured under strict quality checks and inspections at each stage – right from Raw Materials to In Process and Finished Cable stage. Testing, the cable shall be sent to an independent test laboratory to prove the capability of the Company and also to reassure our customers and meet the qualification criteria.

THE COMPANY has successfully manufactured and tested this cable at its Vadodara Plant recently.

SELECTION OF CABLE SIZE:
Specifications of utilities that are currently using 220kV XLPE Cables in India, it was decided to manufacture this cable at its Vadodara plant recently.

BACKGROUND:
RPG CABLES SUCCESSFULLY MANUFACTURED 220kV at VADODARA... contd.

SELECTION OF CABLE SIZE:
This cable was now under in-house Type Testing as per IEC 60287.

For electrical Type Tests, the cable sample was first tested for Bending Test. The cable is being tested for electrical tests using 2 Nos. 220kV Power Transformers (High Voltage Terminals) for High Voltage Impulse testing.

The cable is now under in-house Type Testing as per IEC 60287.

The company; and KPLC and KETRACO are the main users of EHV cables of 220kV grade. It was decided to manufacture and test this cable at its Vadodara Plant recently.

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Back in the 19th century, reinventing the wheel was a different matter altogether. Differentiation didn’t mean doing things differently? In fact, we must do exactly that—We Must Differentiate. Differentiating is an external stimulus. Therefore, what is it that we must do is to find out differentiated strategies. The bigwigs at RPG congregated at the RPG Annual Conference 2013 to brainstorm on how to maintain this pattern—winning through differentiation. “There may be some uncertainty in the days to come. There will also be difficult market situations. We don’t have much of a choice really. We have to combat it.” said RPG Group’s Chairman Harsh Goenka, as he raised the curtain for the Annual Conference. The two-day event was held at Sheraton Grand Hotel in Mumbai on September 25-26. “Winning through Differentiation” was the theme for the Annual Conference.

The conference welcomed a host of highly knowledgeable and experienced guest speakers. The list included prominent executives such as Rajeev Dabhol, Group HR & After-Market and Member of the Group Executive Board, Mahindra & Mahindra Ltd; Nitin Paranjpe, CEO & Managing Director, Unilever; Mr. Yogendra Tiwari, “Head – Technical” at Vadodara plant. The list included prominent executives such as Rajeev Dabhol, Group HR & After-Market and Member of the Group Executive Board, Mahindra & Mahindra Ltd; Nitin Paranjpe, CEO & Managing Director, Unilever; Mr. Yogendra Tiwari, “Head – Technical” at Vadodara plant. The conference was the first time, both the presentations bagged the Gold Award.

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For additional information/details/queries and to subscribe to C2C, please write to: Ms. Nisha Choudhary RPG Cables (A Division of RPG International Limited), 6th Floor, RPG House, Dr. Annie Besant Road, Worli, Mumbai - 400 030. E-mail : choudharynd@kecrpg.com
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RPG Cables (A Division of KEC International Limited)

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