



MIROSCABLE ENGINEERING D.O.O. Serbia, Belgrade,

REFERENCES

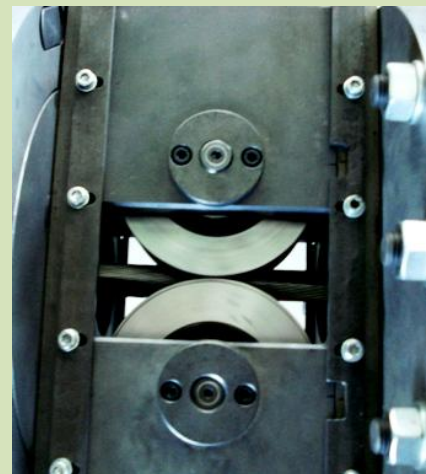
OF

TOOLS FOR CONDUCTORS COMPACTION PROCESS

01. ROLLERS FOR SECTOR SHAPED CONDUCTORS



External dimensions of the rollers are made according to Customers' requirements



For high quality compacting sector shaped conductor is required series of vertical and horizontal rollers.

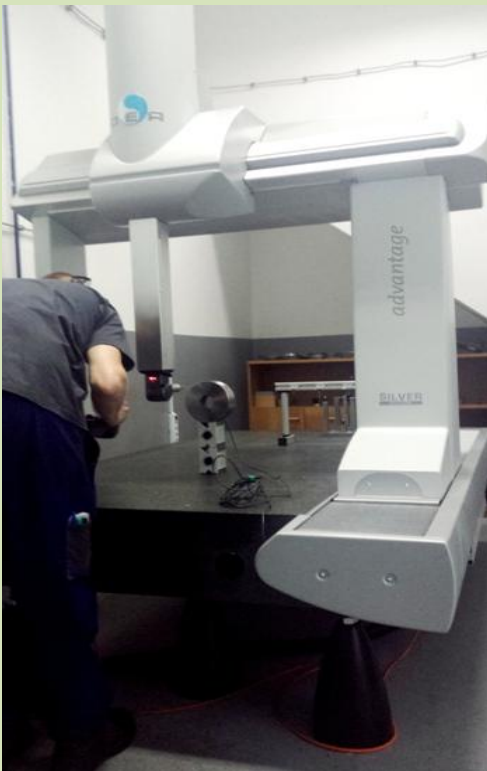
02. **ROLLERS FOR ROUND FORM COMPACTED CONDUCTORS**



The complete assembled pair of rollers for round form



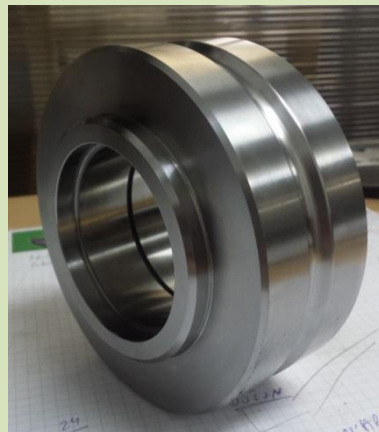
Prepared for the last control



The best quality control



After last quality control prepared for assembling with bearings



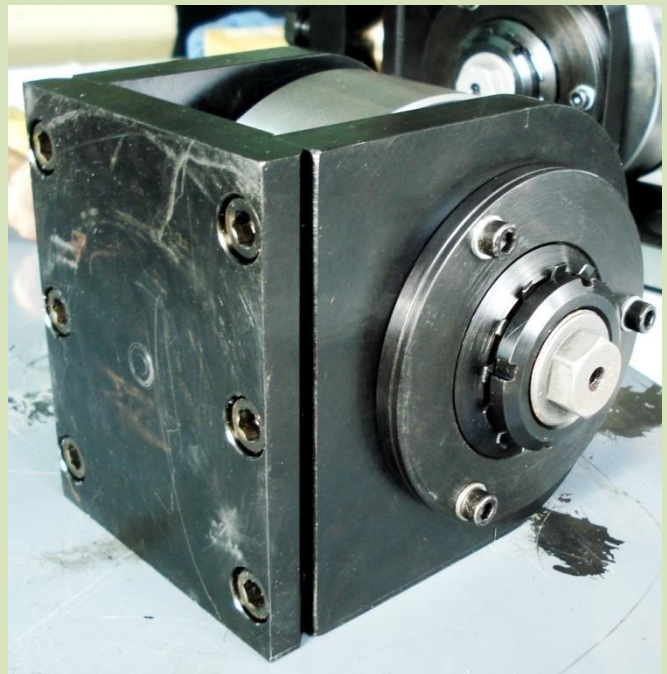
One of the last delivery

03. **DIES FOR STRANDING AND COMPACTING PROCESS**



The dies are additional tools that are not always necessary ... but design is also very correct.

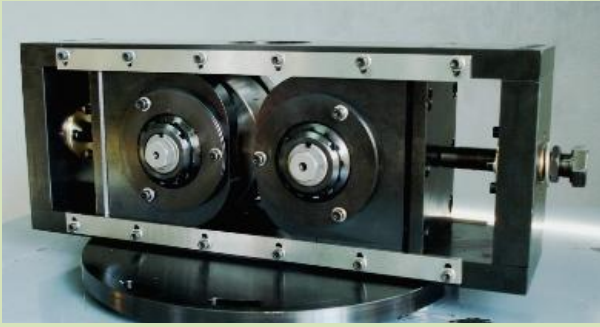
04. **ROLLER HOLDERS (CASSETTES) FOR COMPACTION PROCESS**



The holders for rollers are originally designed for easy handling and precise setup.



Roller bearings are installed in a carrier of roller that the rollers body be more stronger



The cassettes are designed for quick and easy operation.



The Centering and parallelism of the rollers is always correct.



Connecting multiple cassettes in a block for compaction is very simple.

05. CABLE FACTORIES

5.1. FABRIKA KABLOVA ZAJEČAR, Zaječar, Serbia, from 1984 year up to now

5.2. FABRIKA KABLOWA OZAROW, Ożarów, Warsawa, Poland from 1998 year up to closing this factory.

5.3. ZDENKA FABRIKA ZA KABLI, Negotino, Macedonia, from 2008 year up to now.



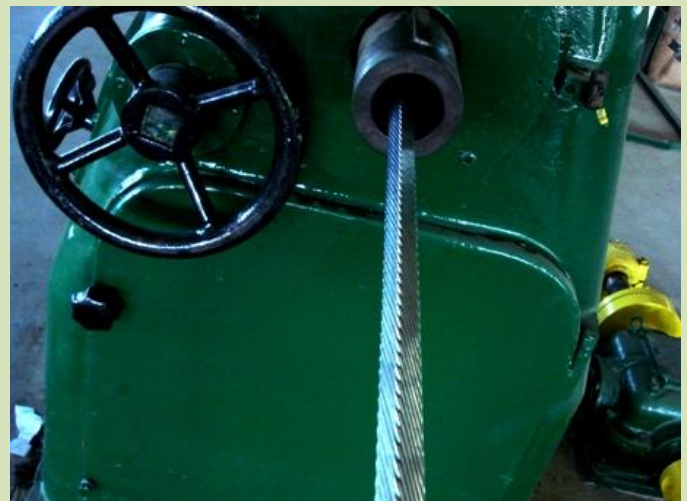
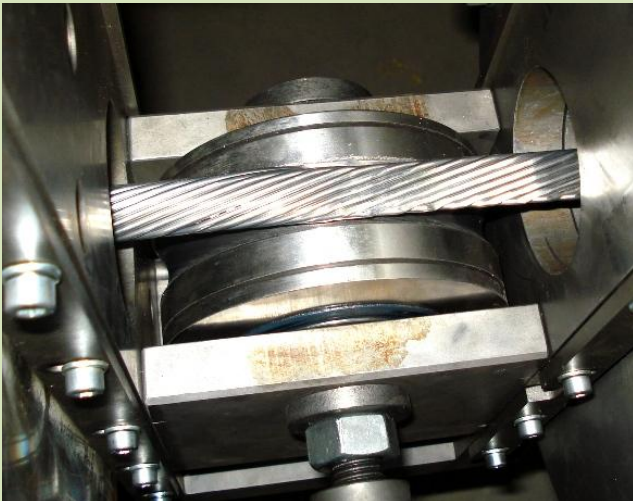
This stranding line is old about 100 years, but with new design rollers and new cassettes produces exelent compacted conductors.



The all part of line are old. Upgrading is only Pourtier's design the holders of rollers (CASSETTES)



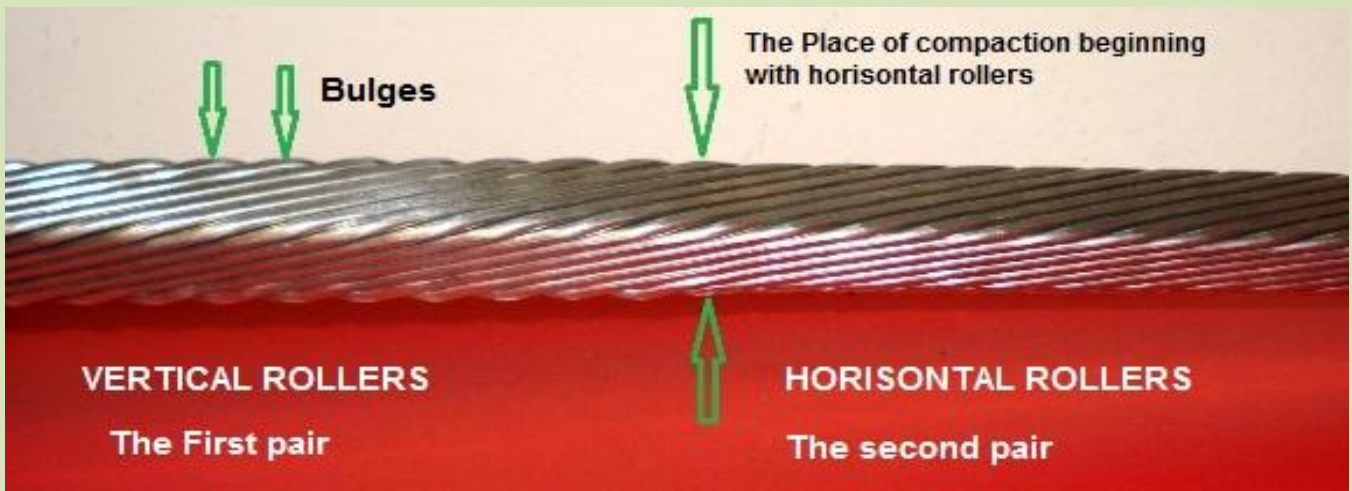
The capstan with one wheel has enough pulling power for compacting with rollers.



Good design of rollers and also well designed cassettes for rollers are sufficient conditions for **QUALITY** compacted conductor.



Sector shaped form is good and assembled core is with excellent roundness. This product is from **ZDENKA KABLI**, Macedonia.



The first pair of horizontal roller pairs significantly increases the quality of compaction, but for high degree of compactness it is necessary complete set of vertical and horizontal rollers.



Several exsamples of sector shaped conductors



The same conductor cross-section but it is a different number and diameter of the wires.

5.4. RIYADH CABLE GROUP of COMPANIES, Riyadh, Saudi Arabia, from 2014 year up to now.



The first step. Schedule cassette 2 + 3 + 3 + 3 had to be replaced layout 2 + 2 + 3 + 4.



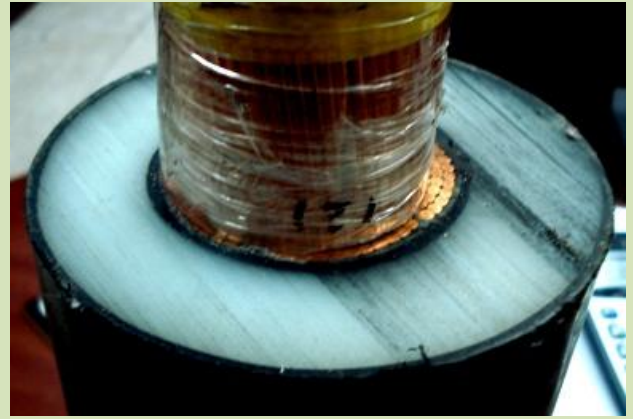
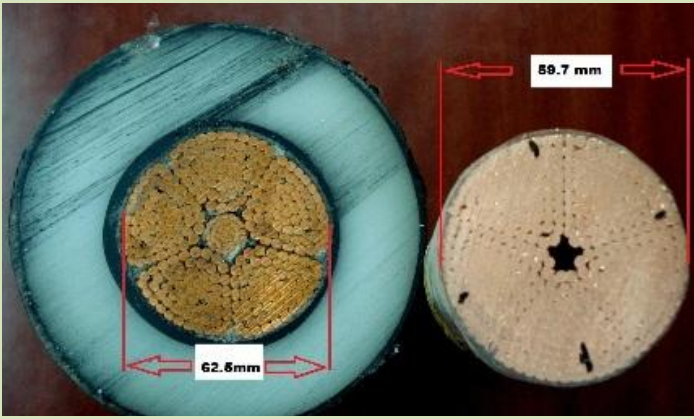
The problem of uneven tension of wires is solved with specially molded dies for the sector and round compacted conductors.



We have an original design and produce a set of dies for assembly stranding sector shaped conductors for Milliken cables.



These assembly dies are manufactured in MIROSCABLE ENGINEERING Company and delivered to RCGC.



Comparison between old and new design.



This is 1200 mm assembled with hands in the production plant

The best operator for stranding in RCGC.

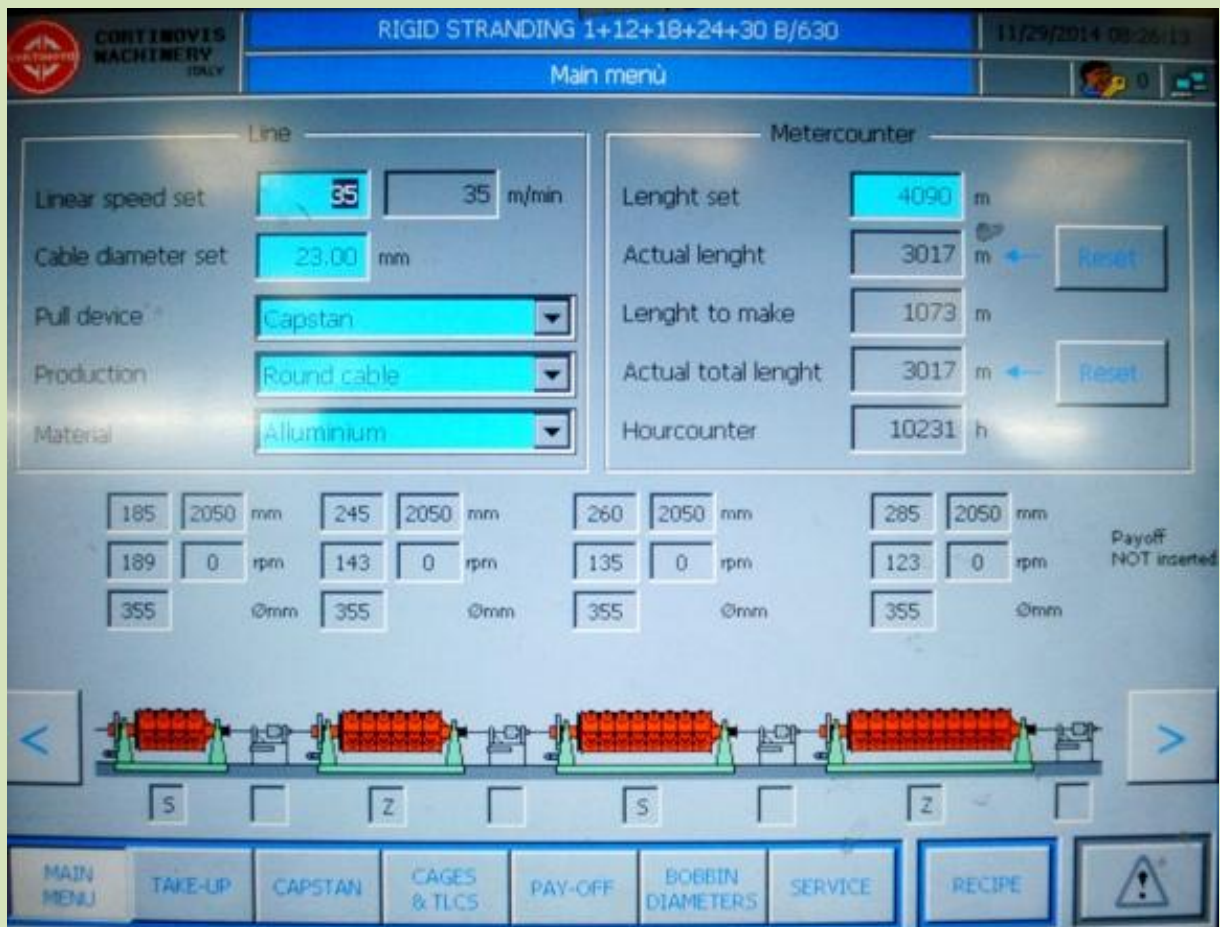


The sector shaped conductor is really excellent.

ROUND COMPACTED CONDUCTOR 500 mm² in Riyadh Cable Companies (RCGC)



The filling and roundness is excellent



All the rollers, designed and manufactured in our company, not limited production speed of the stranding lines.

5.5. **TENAGA CABLE INDUSTRIES, Kuala Lumpur, Malaysia from beginning of 2015 year.**



Practical work with rollers is very simple



The set up of rollers is also simple



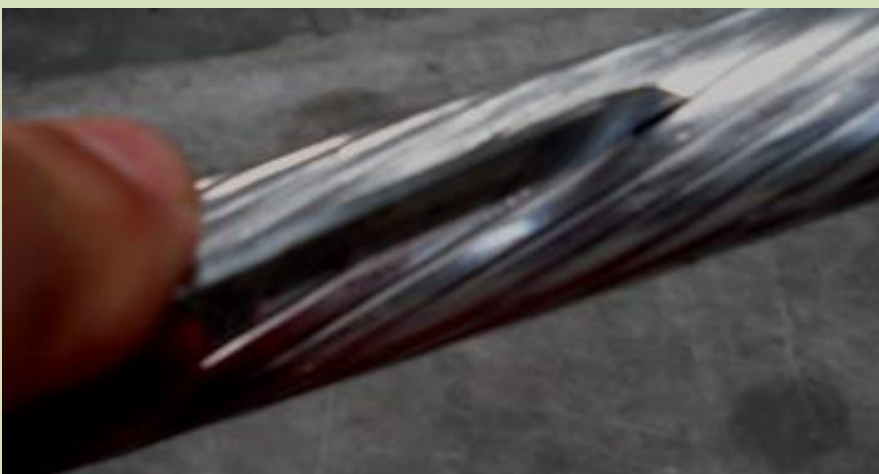
An simple method for obtaining an excellent quality product



The line can operate at full capacity, without speed limits.



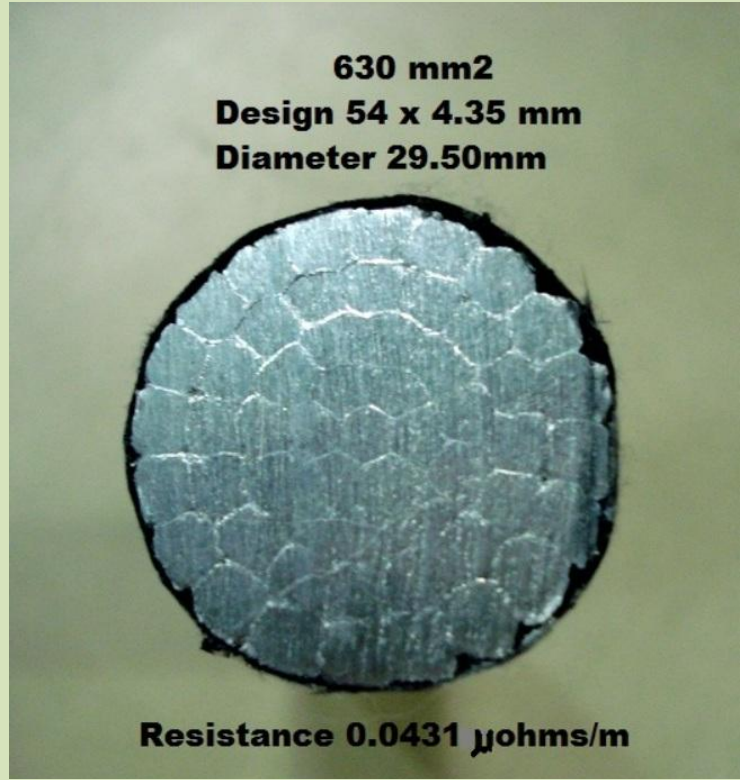
Only this amount of material was needed for the first start on the machine and obtained excellent product.



With knife is not possible to split the wires after capstan



The roundness is very well.



All parameters are excellent and in line with the projected sizes.



The entire team, responsible for the successful start up of the new product

Thankfulness to the successful commissioning of the rollers for compaction process of cross-sections 240 and 630 mm in TENAGA CABLE INDUSTRIES SDN.BHD.:



TENAGA CABLE INDUSTRIES SDN. BHD. (18s42s-D)

(A Subsidiary of Tenaga Nasional Berhad)
POURTIER s.a.s.
1, Rue Encko FERMI,
77400 5T, THIBAIL..ILT LES VI6NES,
FRANCE
Dear Sir/N[adam,
30APRIL 2015

Re : PROCESS ENGINEER Mr. Miroslav Pavlovic

We wish to certify and confirm that Mr. Pavlovic had worked in the POURTTTER RFS800-61 {960004GS} from 23 April 2015 until 30 April 2015.

Mr. Pavlovic had demonstrated using POURTTIER designed tooling for 240 mm² & 630mm² round compact during his stay in our plant

We wish to take this opportunity to enlarges our appreciation for sending Mr. Pavlovic to our plant.

Yours sincerely.,

Najmi Mohannd XyoA
AIEIBt at UmagEr. Busin8r! Erpal3ion
TEY{AIGA CABIE nEITSIRIES 8}D. (rselz}D,

Nathanyel REY

To
'Miroslav Petrovic' 'Miroslav Pavlovic'
Today at 8:45 AM

Dear M. Petrovic and M. Pavlovic,
Congratulation for the roller compacting process of Tenaga line. Good Job ! Thanks for this successful process commissioning.

Best regards,

Nathanyel Rey

General Manager

MSc Miroslav Pavlovic, dipl. eng.
General Manager

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