

PPC Insulators

Remote FATs in the plant PPC CAB

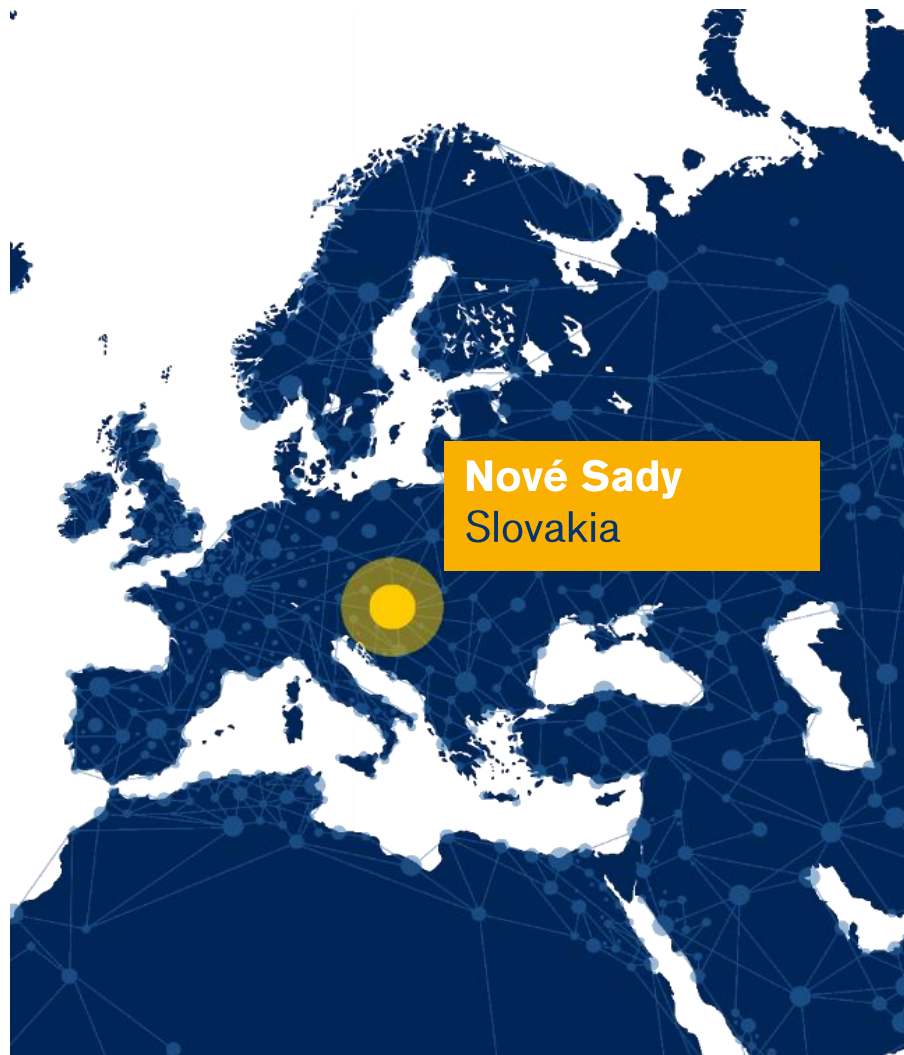
Description and Benefits of the Process

PPC Insulators - Remote Factory Acceptance Tests (FATs)

- PPC Insulators responds to the worldwide Corona crisis connected with travel restrictions and health protection by the proactive solution of the remote FATs offered to all customers in all PPC's manufacturing plants.
- The health and safety of business partners as well as of employees is the top priority.
- Modern technologies and digital communication tools enable proper performance and online streaming of the test.
- The accuracy of the results and the integrity of the process are guaranteed by the IT and technical experts
- The offer of remote FATs continues after the pandemic crisis.



PPC Manufacturing plant PPC CAB



PPC CAB, located in town Nove Sady in Slovakia is a global leader of isostatic porcelain production technology.

- Established in 1955, PPC CAB has independently developed isostatic technology and became world's station posts leader
- With competitive prices, PPC CAB is serving increased demand for high quality products on a global market
- Extending porcelain expertise, PPC CAB started producing hybrid insulators and continue to deliver the top hybrid insulating solutions to customers around the world.
- Product portfolio info:

HV & UHV Porcelain Station Post Insulators
extending product portfolio with hybrid station post insulators and MV insulators



Type of Tests Included in Remote FATs Process

- VISUAL EXAMINATION (IEC 60168 2001-04 / A2 cl. 5.8.1)
- VERIFICATION OF DIMENSIONS (IEC 60168 2001-04 / A2 cl. 5.1)
- GALVANIZING TEST (IEC 60168 2001-04 / A2 cl. 5.7)
- MECHANICAL TESTS (IEC 60168 cl. 5.2 and 5.9)
 1. Bending routine mechanical test (IEC 60168 cl. 5.9)
 2. Bending mechanical failing load test (IEC 60168 cl. 5.2)
- POROSITY TEST (IEC 60168 cl. 5.6)
- TEMPERATURE CYCLE TEST



Execution of Remote FATs in PPC CAB

- The remote FATs are broadcast and tracked via Microsoft Teams, Skype for Business or other available digital applications.
- Responsible members of the PPC Sales team, Quality control, and management, together with representatives of the customers are following the complete running of tests online.
- 4 cameras (3 stationary + 1 mobile) on the important locations are recording the crucial components of the tested insulators and measurement devices.
- A comprehensive explanation of the process, answering questions, and overall commentary of individual steps in English during the test.
- The outcome of the FAT is the complete protocol with all measured data.



PPC Legal Protection of the Video Content

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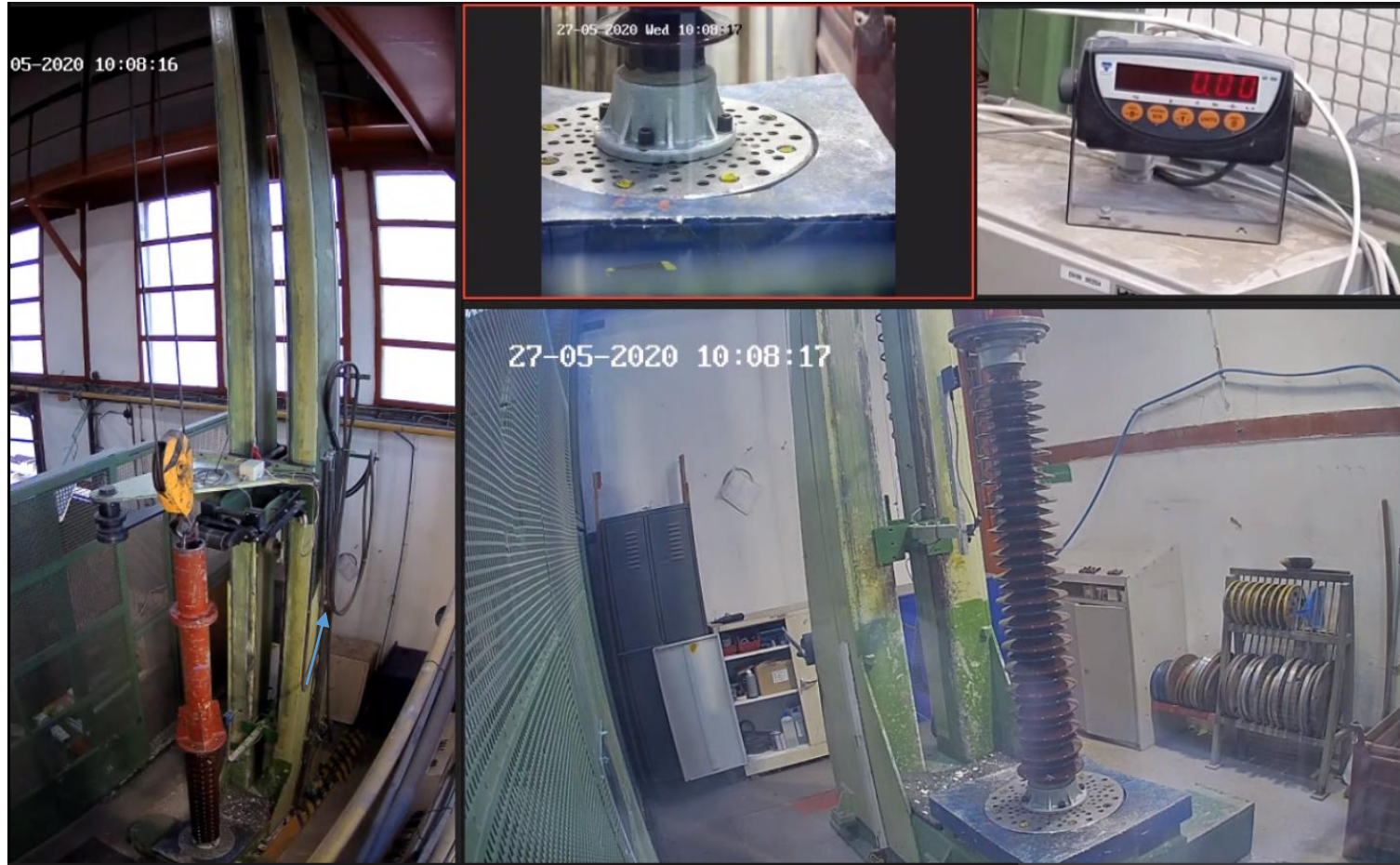
4 Cameras Streaming the Testing Process

2nd Static camera:
View on the bottom fitting with cement layer

3rd Static camera:
Display with the real load force indication

1st Static camera:
Total height of the testing machine with the testing insulator

Mobile camera:
View of the whole tested insulator



Possibilities of Views Taken by the Mobile Camera

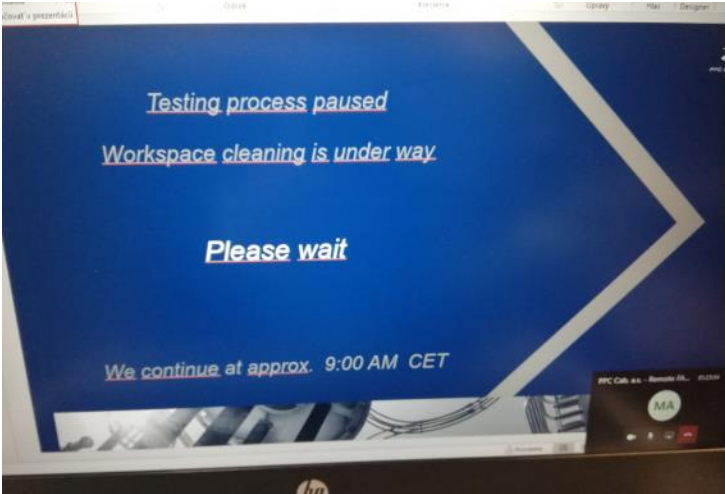
View by handling:

- will capture serial number on the testing insulators
- view on the breakage surface of the broken insulators
- view on the collect the scrap pieces from the broken porcelain parts
- dimension and visual control of the testing pcs

Static view :

- view on the bottom part on insulator during the loading
- view how we prepare a sample and when we put them in the device for porosity test
- when we pick up fragments out of the device is possibility to see the result of the porosity test

Illustration of the running of a FAT process



Performing & Tracking of the Insulator Destruction Test

1. Pressure on an insulator is growing
2. Critical level of pressure achieved
3. The insulator is destroyed by pressure exceeding the limit by x%
4. Taking of porcelain samples for porosity test



Benefits of Remote Factory Acceptance Test

- Flexible and efficient service available anytime – not only during the pandemic crisis
- Safe and considerate solution for all involved parties
- Accuracy of test result guaranteed
- Possibility to adjust the test execution to customers needs and requests in advance
- Economical aspect - huge travel cost and time-saving effect
- Environmentally friendly solution

THANK YOU

Back Up

PPC Insulators – manufacturing plant PPC ČAB

Established:	1955
Employees:	170
Land:	110,000 m ²
Building:	66,000 m ²
Production :	isostatic
Annual capacity:	6,500 t/a
Key equipment:	3 big size iso press with corresponding equipment
ISO certificates:	ISO 9001:2015 ISO 14001:2015 ISO 18001:2007
Production mix	100% Station Posts + Hybrid Station Posts + RTV coating service



Breaking of an insulator in testing



Sample of porcelain for the porosity test



Preparing for the testing

