



NUCLEAR
RESEARCH
INSTITUTE

Operational Support of Power Facilities Department Integrity and Technical Engineering Division



EVALUATION OF CONCRETE DEGRADATION

Evaluation of degradation on the concrete
core sample extracted from the plant

Value for customers

- Integrity of concrete constructions is important for LTO of nuclear power plants (NPPs) as well as for other large utilities
- Concrete structures are subjected to many degradation modes, which influence their expected lifetime
- In order to correctly manage LTO needs and apply corrective measures in time, the thorough knowledge of the current state of the concrete structure is needed

Applications

- Evaluate the level of degradation of concrete structures and provide trends for the future behaviour
- Information necessary for processes ensuring operation beyond the original design lifetime

What we offer

- Experiments providing reliable data of long-term environmental effect (irradiation, boric acid, ASR) on concrete properties
- Data obtained are used for complex evaluation of plant constructions
- Transfer of operational experience from other VVER NPPs

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Our references

- Ageing management review of the concrete of the biological shielding of the reactor pressure vessel
- Operation of the spent fuel pools with double liner at Temelin NPP
- Technical support for ageing management programme for spent fuel pools at Dukovany NPP



Different types of concrete samples before and after mechanical testing