

Profile LFR-76

CORTEST

CHINA

GENERAL INFORMATION

NAME OF THE FACILITY	CORrosion TESt STand
ACRONYM	CORTEST
MEDIUM (COOLANT(S)) OF THE FACILITY	LBE/pure lead
LOCATION (address):	CNPRI, Shenzhen, China
OPERATOR	CNPRI
CONTACT PERSON(S)	Jiming Lin
(name, address, institute, function, telephone, email):	China Nuclear Power Technology Research Institute (CNPRI) 0086-755-88617716 linjiming@cgnpc.com.cn

STATUS OF THE FACILITY In operation
Start of operation (date): 2016

MAIN RESEARCH FIELD(S)

- Zero power facility for V&V and licensing purposes
- Design Basis Accidents (DBA) and Design Extended Conditions (DEC)
- Thermal-hydraulics
- Coolant chemistry
- Materials
- Systems and components
- Instrumentation & ISI&R

TECHNICAL DESCRIPTION

Description of the facility

The main purposes of the CORTEST are: a) to develop oxygen control systems for regulating dissolved oxygen in liquid lead-bismuth eutectic (LBE); b) to evaluate measurement performance of oxygen sensors; c) to evaluate material corrosion performance; d)) to evaluate material erosion performance.

The experimental device includes: lead-bismuth/pure lead ultra-high temperature static corrosion test device, lead-bismuth multi-function static corrosion test device, lead-bismuth dynamic corrosion test device.

Acceptance of radioactive material

No

[Click here to enter text.](#)

Scheme/diagram

3D drawing/photo



Parameters table

Medium (Coolant) inventory	LBE/ pure lead
Power	7kw
Test sections	
TS #1	<u>Characteristic dimensions</u> Up to 36 specimens, equal flat plates of 60 x 20 x 1,5 mm ³ size can be adapted
	<u>Static/dynamic experiment</u> <u>Static/dynamic</u>
	<u>Temperature range in the test section (Delta T)</u> 150-700°C (550°C)
	<u>Operating pressure and design pressure</u> ambient
	<u>Flow range (mass, velocity, etc.)</u> maximum flow rate of 10 m/s
Medium (Coolant) chemistry measurement and control (active or not, measured parameters)	Active oxygen control and monitoring
Instrumentation	Oxygen sensor, gas control systems, MX exchange systems

COMPLETED EXPERIMENTAL CAMPAIGNS: MAIN RESULTS AND ACHIEVEMENTS

Click here to enter text.

PLANNED EXPERIMENTS (including time schedule)

Click here to enter text.

TRAINING ACTIVITIES

Training activities are possible, availability allowing and after prior agreement under supervision of CNPRI Qualified staff.

REFERENCES (*specification of availability and language*)

No