

MOBILE FURNACE

Efectis is the first company in the world that is able to perform realistic fire resistance testing on-site using a mobile furnace. The brand name of the mobile furnace concept is the MobiFiRe, which stands for Mobile Fire Resistance.

Since its introduction in 2011, Efectis has further developed the concept and now serves the market with two different mobile furnaces: the MobiFiRe-ISO and MobiFiRe-RWS. The MobiFiRe-ISO is specially developed for testing according to the standard ISO fire curve or any other "low temperature" fire curve. The MobiFiRe-RWS enables high temperature fire testing up to the well-known HCM and RWS fire curves, with maximum temperatures of over 1350°C. In the mobile furnaces Efectis has combined its renowned expertise in fire resistance testing and on-site testing. The result of this is a fast and flexible setup which allows the fire test to be performed in a time frame of only a few hours after arrival on site.

- Real-time filming from within the mobile furnace allows continuous observation of the tested structure. This can be used to support the analysis of the test. Even more importantly, for concrete test objects observation of the structure enables an instant "stop" of the test when concrete spalling begins. Therefore the damage to the structure can be kept to a minimum. In most cases, only the first few millimetres of the concrete surface need to be repaired.
- The test surface of 1m² can be large enough to obtain reliable test results, but small enough to prevent unnecessary damage to the structure.
- Engineering tools and computer modelling can also be used when assessing the structure.
- The MobiFiRe-ISO and MobiFiRe-RWS furnaces can be applied to all kinds of structural elements, such as ceilings, floors, roofs and walls.
- Efectis can provide all the equipment necessary for on-site testing, including electricity supply and an elevation platform.
- Operation is safe and complies with the necessary safety rules and regulations.
- Fast and flexible setup and dismantling, which allows the fire test to be performed in only a few hours.
- The MobiFiRe service is flexible. Testing according to your specific wishes is always possible: just ask!

MOBILE LABORATORY

MOBILE FIRE TESTING LABORATORY, MIAMI, USA

For a tunnel project in Miami, Efectis set up a temporary mobile fire testing laboratory at the client's premises in Florida. The assignment for the Miami project was split into two parts. The first phase of the research aimed to determine the required insulation performance of passive fire protection systems, such that spalling of the concrete mix used in the tunnel would be prevented. The knowledge obtained regarding the thermal insulation requirements enabled Efectis to assess the performance of several passive fire protection systems in case of a tunnel fire. Based on the assessment of the passive fire protection systems the client was able to select the best solution.

- Avoid the cost of sending a team to witness a fire test.
- Cost-effective selection of passive fire protection system.
- Freedom to choose the testing location.



CHARACTERISTICS OF THE MOBIFIRE SERVICE

- Testing under *realistic circumstances*
- For existing structures the *costs are reduced* compared to a fire test in a laboratory
- Possibility to test *immovable existing structures*, such as monuments and tunnels
- New way of testing possible to select a *cost-effective fire protection system*
- For existing structures, no necessity of 90 days drying time of concrete slabs
- Easy testing of *different alternative fire resistance solutions* in real applications
- Avoid the cost of sending a team to witness a fire test