

The technology developed in CPERI for the evaluation of FCC catalysts is based on a number of laboratory units (bench and pilot scale) by using proprietary evaluation protocols. The most important units used in this field are:

- **FCC pilot plant** ( [here](#) more details)

The FCC pilot plant is based on our own proprietary design and it uses a continuous circulated fluid bed reactor and consists of a riser, a stripper, a lift line and a fluid bed as the regenerator. The unit simulates a commercial FCCU aiming at catalysts evaluation and to the development of new technologies.

- **Laboratory unit for testing FCC catalysts (MAT)**

The Microactivity Test (MAT) unit used in CPERI has been designed according to the ASTM D-3907.

- **Cyclic deactivation unit (CDU) for metals tolerance** ( [here](#) more details)

The unit simulates the deactivation of FCC catalysts by exposing them in cycles: cracking, stripping and regeneration.

### **Methodology for FCC catalysts evaluation** ( [here](#) more details)

The FCC catalysts evaluation is implemented by a combination of the above units. The method is based on a protocol applied to each unit. The type of protocol that will be used depends upon the special requirements of the refinery. For each catalyst, LEFH can give the yields and selectivities of all products as a function of conversion. In addition, the evaluation is completed by the physicochemical characterization of the cracking catalysts.