

## **KTI Project Report No. 9**

### Suspension of a test stand for high-speed-trains

<b>Customer</b>	 CEDEX
<b>Location</b>	 Spain
<b>Year</b>	 2016
<b>KTI product</b>	 66 Spring Isolator TP Type
<b>Nat. frequency</b>	 3.0 Hz
<b>Tot. weight</b>	 app. 1,170 t

In Madrid, Spain, the research agency CEDEX runs a test stand for Spanish high-speed trains. KTI Spring Isolators are used for reducing vibrations in the environment. These TP-type KTI Spring Isolators have a natural frequency of 3.0 Hz.

The total weight of the test stand of approximately 1,170 t is distributed over 66 support points, with 12 spring isolators absorbing a load of app. 30 t and 54 spring isolators absorbing a load of app. 15 t. The TP-type spring isolators is designed such that the isolators are prestressible in order to enable a leveling of the construction. Additionally, the spring isolators can be equipped with a viscous damping.

The photos on the right show the installed spring isolators with a bearing pressure of app. 30 tonnes. The load is borne by cylindrical shaped helical steel springs, which are positioned between the upper and the lower construction of the spring isolators. The upper part is designed so that hydraulic jacks can be inserted to compress the spring isolators.



**Spring Isolators for suspension of a test stand**