

**Steel Materials**  
for **Application Research and Technology**) on Nov. 1,  
2005 The centre is located mainly in Keihin District.  
As a result, we are confident that the JFE Group can provide solution technologies for steel construction materials, processing and execution techniques, and design, fabrication and maintenance control at unprecedentedly high levels.

## **2. Outline of THiNK SMART**

(BHS) which permit next-generation rationalized design using advanced thermo-mechanical control process (TMCP) technology, weathering steels and a rust stabilizing treatment (CUPTEN COAT M) which reduce the life cycle cost (LCC) of steel bridges, and a corrosion prediction technology for predicting changes over time in the corrosion of weathering steels based on the air-borne salinity level, temperature, and wet time determined from information on the location and distance from the shoreline.

(4) Port, Harbor, and Offshore Structures

Heavy duty steels with organic or metallic coatings which provide high performance corrosion protection in marine environments and reduce the total life cycle cost (LCC) of steel structures, and a sheet pile for high performance cut-off walls (J-POCKET PILE).

(5) Other Field

THiNK SMART displays and introduces several products of JFE Steel’s East Japan Works; corrosion protective steel pipes, such as a polyvinyl chloride-free plastic coated steel pipe (PLS-F) for penetrations through fire compartments of buildings, and a 3-layer polyethylene-coated steel pipe with fusion-bonded epoxy primer for high durability under cathodic protection.

## 2.2 Testing Facilities

Keihin District has the following equipment for the evaluation of steel structures and materials: (1) Testing facilities for steel materials and processing solutions, such as lab-scale welding facilities (GMAW, TIG, EGW, ESW, etc.), fatigue testing machines, and tensile testing machines, (2) facilities for seismic and wind-proof

design in evaluations of the structural performance of steel structures, such as 3 MN structural testing machines, steel and RC test-beds, 200 kN shaking tables, wind tunnels, and wave channels, (3) testing facilities for corrosion solutions, such as accelerated corrosion test machines for steel materials and organic coated steel materials and exposure corrosion test fields for underground and atmospheric environments, and (4) analytical facilities for surface characterization (ultra-low voltage , and Oy vcili9in evTHiN materials: (1altra-low v

testing apparatus at THiNK SMART, and (2) technical exchanges with customers on these recent products and technologies help JFE anticipate latent customer needs and accelerate development of new steel structure products, processing technologies, and solution technologies which better satisfy market needs.

#### **4. Conclusion**

JFE Steel, JFE R&D, and related JFE Group companies intend to carry out research activities at THiNK

SMART as a key research centre in Japan in the field of steel structures so that solving problems which customers confront can contribute to progress in steel structural materials, design and construction technologies, and maintenance control technologies.

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