Other Businesses

Shinko Real Estate Co., Ltd.

Steadily Developing the Real Estate Business and Expanding Property Management Services

Kobelco Research Institute, Inc.

Supporting R&D and Production Technologies for All Industries

Business Review

Shinko Real Estate Co., Ltd.

Construction of Kobe Harbor Tower was completed in March 2013

Owners: Shinko Real Estate Co., Kanden Fudosan Co., Ltd., ORIX Real Estate Corporation
Total residential units: 300
Number of stories: 35
Features:

- Super high-rise residence offers a close-up view of Kobe Harbor
- Employs the Dual Frame System (super high-rise vibration control structural system), creating a solid and comfortable residential environment

Other projects are:

G-clef Takarazuka Mukoyama
(84 units, Takarazuka, independent project)
G-clef Kakogawa Ishimori
(37 units, Kakogawa Ishimori, independent project)
Branz City Nishinomiya Koroen
(194 units, Nishinomiya, a joint project with Tokyu Land Corporation)

The above units have been put up for sale.

Kobelco Research Institute Inc.

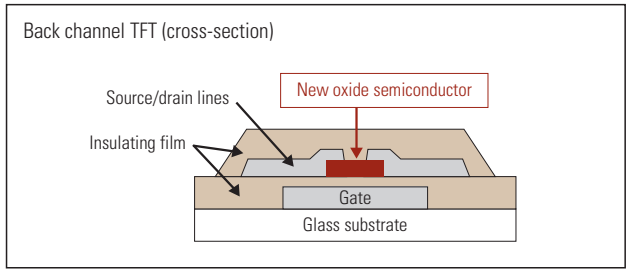
Development of oxide semiconductor material and target material for FPDs

Recently, Kobelco Research Institute and Kobe Steel have developed an oxide semiconductor material and sputtering target of proprietary composition for use in next-generation flat panel displays (FPDs).

In FPDs used in mobile devices and tablet PCs, where the trend is for higher resolution and lower power consumption, high-performance semiconductor materials are more in demand than thin-film transistors (TFTs) that use existing amorphous silicon. TFTs that use high-performance silicon, known as low-temperature poly-silicon (LTPS), are already commercially viable, but there are problems with high manufacturing costs and difficulties of scaling up the size.

In contrast, oxide semiconductors enable the manufacture of large, high-performance FPDs because they can be manufactured with the same sputtering method as existing amorphous silicon. Recently, an oxide silicon material called IGZO has been developed, and although Kobe Steel has also begun to sell IGZO, there has been demand for its application in the back channel etch (BCE) process, which enables productivity improvements in customers' PFD manufacturing process.

This recently developed oxide semiconductor of proprietary composition can be applied to the BCE process by raising its resistance to acid-based chemical solutions. Furthermore, since the oxide semiconductor does not require that major changes be made to the existing flat panel manufacturing process, it is expected to be increasingly adopted as a user-friendly material.



Pattern diagram of back channel TFT that uses new oxide