



# K.POD

Concrete shielding container for radioactively contaminated soils and simulation system



## K.POD System

With the aid of a simulation system (K.POD), allows consistent evaluation of radioactively contaminated soils, design of the concrete shielding containers and post-shielding monitoring.

## Outline of demonstration experiments

We analyzed the degree of radioactive contamination of sands extracted from Fukushima.

Two types of concrete containers were developed.

The radioactivity at the time of storing polluted earth and sand in a container was measured.

Radioactivity measured at the surface of the container was reduced.

Ultra heavy concrete container: 1/17.5

Recycled aggregate concrete container: 1/11.4

Based on the demonstration experiments, the simulation system (K.POD) was developed.

### Ultra heavy concrete container

$\phi=50\text{cm}$ ,  $H=60\text{cm}$   
 $t=10\text{cm}$ ,  $M=420\text{kg}$   
 $\rho=4,700\text{kg/m}^3$

### Recycled aggregate concrete container

$\phi=70\text{cm}$ ,  $H=80\text{cm}$   
 $t=20\text{cm}$ ,  $M=600\text{kg}$   
 $\rho=2,100\text{kg/m}^3$



Radiation dose of soils  
Cs134 : 31.4Bq/g  
Cs137 : 48Bq/g

### Experiment results ( $\mu\text{Sv/h}$ )

Distance from pollution sands (cm)	10	20	30
Pollution sands (No shielding)	<u>3.15</u>	<u>1.71</u>	1.07
Ultra heavy concrete container ( $t=10\text{cm}$ )	<u>0.18</u>	0.14	0.07
Recycled aggregate concrete container ( $t=20\text{cm}$ )	—	<u>0.15</u>	0.09



Measurement situation