

Background — Volcanic sediments and concrete —

- ❑ History of volcanic ash and concrete (火山灰とコンクリートの歴史)
 - Pantheon (ancient Rome) ← “Pozzolana” (volcanic ash)
 - Utilization of volcanic ash for harbor construction in Otaru (小樽築港, 廣井勇)
- ❑ The state of concrete industry (コンクリート業界の現状)
 - Large emission of CO₂ during cement production
 - Reduction of limestone resources as raw material of cement in Japan (石灰石資源の減少)
 - Admixture derived from by-products of other industries...BFS, FA, SF (他産業副産物混和材)
- ❑ Unused natural resource “Shirasu” (未利用の天然資源「シラス」)
 - Volcanic sediments in southern Kyushu (Kagoshima)
 - Abundant reserves of 75 billion m³ (埋蔵量 750億 m³)



Pantheon
ローマのパンテオン

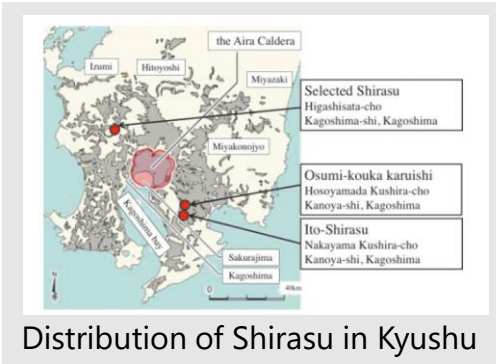


Otaru harbor (Hokkaido)
小樽築港北防波堤 (北海道)



Shirasu (Kagoshima)
シラスの地山 (鹿児島県)

Introduction — What is Volcanic Glass Powder ? —



Gravity classification
(比重選別)

Crystalline (結晶質)

Pumice (軽石)

Clay (粘土質)

Volcanic Glass (火山ガラス)

Pulverization (粉碎)

Volcanic Glass Powder (火山ガラス微粉末)

Research Content

- Toward the practical use of Volcanic Glass Powder (VGP)
 - Effect of VGP on hardened mortar, and cement paste (concrete)
 - Effect of variation of VGP properties by sediment status of Shirasu
- Development of the utilization technology of Shirasu to the other volcanic sediments

