Red Mud based Advanced Gamma Ray Shielding Aggregate & Heavy Density Concrete

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Blending of Red mud with Chemical Additives

Pelletizing

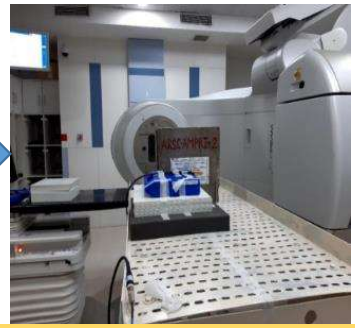
Salient Technical Features

TRL : 7

- Non Toxic – Lead free & Hematite Ore Free
- Specific Gravity of developed Red Mud based Synthetic Aggregates : 4.12
- Density of Advanced Radiation Shielding Concrete: 3640Kg/m^3
- Compressive Strength : 35 MPa
- Flexural Strength : 4.5 MPa
- Shielding – High energy Radiation : Gamma Rays
- Attenuation factor for Gamma Source ^{137}Cs : 5.73 & ^{60}Co:4.29
  - 12 % higher than Hematite ore based concrete for ^{137}Cs
  - 10 % higher for ^{60}Co (Tested at BARC Mumbai)

Red Mud based Synthetic Aggregates

Radiation Shielding Concrete



Radiation Attenuation Test before High Energy Linear Accelerator

Know-How Ready for Transfer

Publications : 05

Human Resources

- Ph.D Awarded :01
- Ph.D Continuing : 01

APPLICATIONS

Developed Radiation Shielding concrete having Gamma ray shielding properties can have applications in:

- Nuclear Power Plants, Bunkers for Strategic Sector, Medical Diagnostic Installations