

Cement

1. Applicable Scope

"Portland Cement" SNI 2049, "Portland Posolan Sement/PPC" SNI 0302, "Portland Composite Cement/PCC" SNI 7064, "White Cement" SNI 15-0129, "Portland Slag Cement" SNI 8363

2. Terminology

Recycling	Collecting used materials and putting them into recycling processes for the purpose of reuse, recycle, energy recovery, production of gas or oil, blast furnace reduction, or production of chemical raw materials for coke-oven
Recycled materials	Post-consumer materials or pre-consumer materials, or a combination of these. However, this product category shall include thinned wood, less useful wood, slag resulting from industrial activities, etc., in recycled materials.
Pre-consumer materials	Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.
Post-consumer material	Material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose. This includes returns of material from the distribution chain.

3. Certification Criteria and Certification Procedure

3-1. Resource Saving /Resource Circulation

- (1) The products shall use recycled materials that are defined above, and contain the materials listed in Table 1.

Table 1 Recycled materials usable for making cement

Recycled materials
Blast furnace slag
Coal ash
By-product gypsum
Sludge
Non-steel slag
Steelmaking slag
Combustion residues (excluding coal ash), soot, dust

Coal refuse
Foundry sand
Waste tires
Recycled oil
Waste oils
Waste clay
Waste plastics
Wood chips
RDF
RPF
Municipal solid waste or other wastes that are considered appropriately as cement constituents

【Certification Procedure】

For the used recycled materials, a raw materials certificate (Form 1) issued by the supplier shall be attached.

- (2) Raw materials (including fuels and mixing materials) used in the process of producing 1 ton of the product shall contain 0.4 ton or more of the above-mentioned recycled materials in total. As for recycled materials containing moisture, including sludge, the raw materials shall be calculated using mass values when received.

【Certification Procedure】

The total mass of materials per ton of the product that are used during the production process, and the types of recycled materials, the proportional content of recycled materials and materials other than recycled materials and control procedures shall be stated in the product weight certificate (Form 2).

Some waste have potential not only for clinker raw material but for energy-use as well. Given the fact that Indonesia faces challenges about final disposal site, using waste as fuel is one of promising way.

3-2. Climate

- (3) CO₂ emissions of cement production process should reduce at least 5% from the baseline of 2010.

【Certification Procedure】

The average CO₂ emissions per ton of the product in the production process should be calculated by basic unit of 2010 and be submitted in comparison with

the case of 2010. The World Business Council on Sustainable Development's – Cement Sustainability Initiative's (WBCSD-CSI) "CO₂ and Energy Accounting and Reporting Standard for the Cement Industry" can be used as the reference for the calculation of CO₂ emissions.

3-3. Human health (Hazardous substances)

- (4) As for leaching test, the product shall conform to the Toxicity Characteristic Leaching Procedure (TCLP) standards concerning heavy metals set forth in Table 2.

Table 2 Regulatory limits

Material	Regulatory limit[mg/l]
Arsenic	5.0
Barium	100
Cadmium	1.0
Chromium	5.0
Lead	5.0
Mercury	0.2
Selenium	1.0
Silver	5.0

【Certification Procedure】

A certificate shall be submitted describing the results of tests carried out according to US EPA method 1311 by an independent testing institution or public institution.

3-4. Communication

- (5) The instruction on usage and storage should indicated on label, package or specification sheet. In addition, it is recommended that environmentally friendly aspects of the product such as usage of recycled materials or CO₂ emission consideration are also indicated on either of them.

【Certification Procedure】

Copies of a corresponding part that indicate the matters related to this item shall be submitted.

3-5. Quality related and others

- (6) Quality requirements for products shall conform to the respective latest standard of "Portland Cement" SNI 2049, "Portland Posolan Sement/PPC" SNI 0302,

"Portland Composite Cement/PCC" SNI 7064, "White Cement" SNI 15-0129, "Portland Slag Cement" SNI 8363.

【Certification Procedure】

A certificate shall be submitted verifying conformity with the relevant quality standards.

- (7) In manufacturing the applied product, related environmental laws and regulations and pollution control agreement (hereinafter referred to as the “Environmental Laws, etc.”) must be followed with respect to air pollution, water contamination, noise, offensive odor, and emission of hazardous substances in the area where the plant performing the final manufacturing process is located.

【Certification Procedure】

With respect to the compliance with the Environmental Laws, etc. in the area where the plant performing the final manufacturing process is located, a certificate (Form 3) issued by the representative of the business of manufacturing the applied product or the relevant plant manager (entry or Attachment of a list of names of the Environmental Laws, etc.) must be submitted.