



# **Green Label Product PE Drinking Water Pipe (TGL-48-11)**

**Revision Approved on  
28 January 2011**

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## TGL-48-11

### Polyethylene Pipes for Drinking Water

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#### 1. Background

Plastic pipe can be made of various types of plastic, which have different advantage and disadvantage depend on their properties during production, utilization, and disposal. Polyethylene pipe is the popular pipe used in many buildings because of its properties that can be bended when used with foundation pile. However, manufacturing and disposal of polyethylene pipe can cause pollution and emit hazardous chemical substances to environment.

Therefore, Green label specification of polyethylene pipe for drinking water will focus on minimizing the product's environmental impact and ensuring consumer safety.

#### 2. Scope

Polyethylene water supply pipe in this requirement covers only high density polyethylene pipe size 16 mm. to 1600 mm. and quality class PN 3.2, PN 4, PN 6, PN6.3, PN 8, PN 10, PN12.5, PN 16, PN20 and PN 25.

#### 3. Definition

Polyethylene plastic water supply pipe means pipe that made from high density polyethylene (HDPE) with density not less than 0.950 gram per cubic centimeter.

#### 4. General requirements

4.1. The product must be certified by Thai Industrial Standard for Polyethylene drinking water pipe number TIS.982 or pass the test where the methods are as described in the said TIS or another standard that is equivalent to or higher than TIS.982 or international standards.

4.2. Manufacturing process, transportation and industrial waste management must comply with the related Laws and regulations.

#### 5. Environmental requirements

5.1. The product must not contain toxic substances that fall into following risk phrases

R45 - May cause cancer.

R46 - May cause heritable genetic damage

R48 - Danger of serious damage to health by prolonged exposure

R61 - May cause harm to the unborn child

R63 - Possible risk of harm to the unborn child.

R68 - Possible risk of irreversible effects which are specified in the list of hazardous

substances code according to Annex 1 of Directive 67/548/EEC

5.2. The product must not contain heavy metals i.e. cadmium, lead, mercury, tin and chromium (+6).

5.3. Plastic symbol must be illustrated on the product. The symbol must be as specified in Thai Industrial Standard for recycle plastic number TIS 1310 or ISO 1043 or ISO 11469

Note: heavy metal content in the product i.e. mercury, lead, cadmium, tin and chromium (+6) resulted from impurity and contamination from raw material shall not be more than 0.00002 (2 ppm) by weight in total.

## **6. Testing and certification**

6.1 Manufacturer shall submit licence of TIS.982 or test report of product that comply with TIS.982 or other test report from accept national or international standard.

6.2 Manufacturer shall submit letter to declare toxic substance for compliance verification as defined in requirement no. 5.1 where the list must follow Annex I Directive 67/548/EEC. The letter shall be signed by the authorized directors and have the company seal affixed (if relevant).

6.3 Manufacturer shall submit laboratory test result for compliance verification of heavy metal, such as cadmium, lead, mercury, tin and chromium(+6), where the test methods must follow IEC62321 or equivalent national or international standard.

6.4 Manufacturer shall submit sample of product and letter of declaration of plastic type as defined in requirement no. 5.3. The letter shall be signed by the authorized directors and have the company seal affixed (if relevant).

Note: The laboratory shall be operated by

- Government laboratory or
- Laboratory under governmental control as defined by clause 5 of the Industrial Standard Act B.E. 2511 (and its addenda) or certified by TIS. 17025 or ISO 17025.
- Test result shall have been issued no more than 1 year following the application date.