



HANSUNG HANALON CO.,LTD.

454 Noha-gil, Paltan-myeon, Hwaseong-si, Gyeonggi-do, SEOUL 18530 KOREA

TEL: +82-31-366-3190

FAX : +82-31-366-3198~9

Email : trade@hanalon.com

<http://www.hanalon.com>

March 28, 2016

CHLORIDE CONTENT IN YOOJINLON/HANALON CHEMICALLY CROSS-LINKED POLYETHYLENE SHEET & PIPE INSULATION PRODUCTS

Insulation products with high chlorine/halogen content present a problem with certain application. In particular, stainless applications with fluid temperatures above 90°F can be subject to corrosion over a long period of time as halogens are considered to be a corrosive agent. This would also include stainless steel piping that is heat traced.

Yoojinlon & Hanalon Chemically cross-linked Polyethylene sheet & Pipe insulation products exhibit low leachable chloride content as shown below. Test was conducted by KTR(Korea Testing & Research Institute) in accordance with ASTM C 871-11e1 (Test Method for Chemical Analysis of Thermal Insulation Materials for Leachable Chlorides, Fluorides, Silicate and Sodium Ion).

Insulation description

Foamed Polyethylene for Thermal insulation
Materials with Fire Resistive

Total Chloride Content

< 10 $\mu\text{g/g}$

The total chloride content of Yoojinlon/Hanalon products would not cause a problem on stainless steel applications and have never been associated with stress crack corrosion issues.

The total leachable chloride content in the polyethylene product has been tested and meets the requirements of ASTM 692 (Specification for Thermal Insulation for Use in Contact with Austenitic Stainless Steel).

The test result of ASTM C 871 and ASTM C 692 are combined to meet the requirement of ASTM C 795. The material described above was acceptable for meeting the requirements of ASTM C 795.

Issued by

Sabrina Lee

Deputy General Manager

HANSUNG HANALON CO., LTD.



TEST REPORT

98, Gyoyukwon-ro, Gwacheon-si, Gyeonggi-do, 13810, Rep. of KOREA

TEL 82-2-2164-0011 FAX 82-2-2634-1008

Report No : TAK-006777

Receipt Date : Mar.16.2016

Client : Jeong Eui-pyo

Test Completion Date : Mar.23.2016

HANSUNG HANALON CO.,LTD.

454 Noha-gil, Paltan-myeon, Hwaseong-si, Gyeonggi-do, Seoul 445-913
Rep. of KOREA.

Sample : Foamed Polyethylene for Thermal Insulation Materials with Fire Resistive(Y)

TEST RESULTS

TEST ITEM	UNIT	SAMPLE	RESULT	TEST METHOD
Cl	µg/g	-	Not Detected	ASTM C871-11e1

- Method Detection Limit -
Cl : 10 µg/g

* IC : Ion Chromatograph

* USAGE : QUALITY CONTROL

NOTE : 1. The test results on this test report are only limited to the samples and sample names provided by the customer and KTR does not guarantee the quality of all products of the customer, and you can confirm the authenticity of the test report online (www.ktr.or.kr) or by using the QR code.
 2. This test report shall not be used for public relation, advertisement, lawsuit and any other purposes outside the scope of its defined usage.
 3. Only original copy (including certified copy) of the test report is valid - electronic copy (hard and/or soft) is for your reference only.

Hong Chang-ki

Prepared by Hong Chang-ki
E-mail: environchem@ktr.or.kr

Kim Sun-il

Reviewed by Kim Sun-il
Technical Manager
Tel: 1577-0091(ARS ①→④)

Mar.23.2016

Korea Testing & Research Institute

President

Choi Hyeonk'



QR Code to verify genuineness

1 of Total 1 Page(s)