



Laboratory Testing Report

<i>Company</i>	Noroo Paint And Coatings
<i>Contact Name</i>	Sung Woo Jung swjung@noroo.com Yun-jae So syj@noroo.com
<i>Report Date</i>	August 23, 2018
<i>Category</i>	Detailed Performance
<i>Category Type</i>	Initial
<i>IPS#</i>	3025-I-2018-47-16299
<i>MPI Category #</i>	47
<i>Product Label</i>	NOROO
<i>Product Name</i>	Green Enamel Interior Semigloss
<i>Product Code</i>	NA
<i>Batch Number</i>	118JUL1111B
<i>Testing Results</i>	PASS
<i>Approval Expiry Date</i>	Approximately 2 years
<i>Failure Notice</i>	
<i>Comments</i>	
<i>MPI Technical Director</i>	Bob Welch
<i>MPI Senior Admin Assistant</i>	Matt Jacobs
<i>MPI Invoice #</i>	D18-0717

A pass report is not the final approval.

**Final approval occurs when the product is published in the MPI Approved Products List.
The MPI Approved Products List is updated by the 5th of each month.**

2800 Ingleton Avenue, Burnaby, BC V5C 6G7 Canada
Tel: 604-298-7578 Fax: 604-298-7571
Toll-Free Tel: 1-888-674-8937, Toll Free Fax: 888-211-8708
August 23, 2018

■GENERAL INFORMATION

This paint is based on Alkyd-based paint, colored semi-gloss finish, intended for use on new or previously painted interior wood and metal surface. This product will be primarily used for residential and commercial buildings, on trim, doors, frames and siding.

■SUITABLE USE

The Paint complying with this specification is intended for use on new or previously painted interior surfaces including primed wood and metal surfaces.

■SPECIFICATION

A. Type: Alkyd resin / Semi-Gloss / Interior

B. Drying Times:

	5°C	20°C	30°C
Set to Touch	7H	3H	2H
Dry Hard	36H	15H	12H
For Over coat (Min.)	48H	24H	18H

* H: Hour

C. Consistency: Ready for use

D. Thinner: DR-291 (Max. 10%)

E. Specific Gravity: Appr. 1.28

F. Theoretical Coverage: 5~7m²/L/2 coats/60μ
(Dry film thickness)

G. Shade: White and tints

H. Texture: Semi-Gloss (Gloss 60 degree : 35 - 70)

■DIRECTION FOR USE

A. Surface Preparation

1. Eliminate oil, water, grit, dirt, marked paint and any foreign matters.

B. Preparation of Paint

1. Stir to be mixed uniformly.
2. Avoid excessive thinning.

C. Application

1. Can be applied by brush, spray.

■OTHER CAUTIONS -

1. Will not form a homogeneous film below 5°C (41°F) or at humidities greater than 95% R.H.
2. Don't store or ship the paint at temperatures less than 5°C (41°F) nor above 35°C (95°F)

3. Surface to be painted shall be prepared an instrument-measured moisture content not exceeding 8% and less than 9 pH.

* The information and data given herein are based upon tests and experiences considered reliable, and are believed to be accurate. The coverage depend on the shape of surface to be coated, surface roughness, weather conditions during application and application method, so that you are urged fully to review them prior to your practical application.

* The date of issue: 2009.04

MATERIAL SAFETY DATA SHEET

SECTION I GENERAL INFORMATION

- A. PRODUCT NAME: Green Enamel Interior (MPI 47)
Alkyd / Interior / Semi-Gloss(MPI Gloss Level 5)
- B. MANUFACTURERS NAME: NOROO Paint & Coatings Co., Ltd.
615 PARK DAL DONG, AN YANG CITY
KYUNG KI DO, KOREA
TEL: (031)467-6150

SECTION II COMPOSITION

CHEMICAL NAME	CAS NO	CONTENTS
Alkyd resin	NOT HAZARD	40 ~ 60
DEODORIZED KEROSENE	8020-83-5	4 ~ 8
TITANIUM DIOXIDE	13463-67-7	30 ~ 40
S1	-	< 5
S2	-	< 5

SECTION III PHYSICAL PROPERTIES

BOILING RANGE	314~387 deg.F
EVAPORATION RATE	SLOWER THAN ETHER
VAPOR DENSITY	HEAVIER THAN AIR
% VOLATILE VOLUME	50 MAX
SPECIFIC GRAVITY	1.3±0.1
VISCOSITY	110±10 KU

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION: COMBUSTIBLE LIQUID

FLASH POINT: (TCC) 100 Deg.F LEL: 1.0

EXTINGUISHING MEDIA: FOAM, CO₂ , DRY CHEMICAL, WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS:

LIQUID EVAPORATES AND FORMS INVISIBLE VAPORS WHICH SPREAD EASILY AND CAN BE IGNITED BY MANY SOURCES SUCH AS PILOT LIGHTS, WELDING EQUIPMENT, ELECTRICAL MOTORS AND SWITCHES. FIRE HAZARD IS GREATER AS LIQUID TEMP. RISES ABOVE 85 Deg.F.

SPECIAL FIREFIGHTING PROCEDURES:

USE AIR SUPPLIED RESCUE EQUIPMENT FOR ENCLOSED AREAS. AVOID SPREADING BURNING LIQUID WITH WATER USED FOR COOLING PURPOSES.

SECTION V – HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

EYE CONTACT–SHORT TERM LIQUID OR VAPOR CONTACT MAY RESULT IN EYE IRRITATION. SKIN CONTACT–PROLONGED AND REPEATED SKIN CONTACT MAY CAUSE DEFATTING AND DRYING OF THE SKIN RESULTING IN SKIN IRRITATION AND DERMATITIS. INHALATION–EXPOSURE TO HIGH VAPOR CONCENTRATIONS MAY BE IRRITATING TO THE MUCOUS MEMBRANES.

MEDICAL CONDITIONS PRONE TO AGGRAVATIO BY EXPOSURE:

HEADACHES, DIZZINESS, NAUSEA, AND LOSS OF CONSCIOUSNESS.

PRIMARY ROUTE(S) OF ENTRY: INHALATION, INGESTION

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT–WASH EYES WITH FRESH WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, SEE A DOCTOR. SKIN CONTACT–WASH THOROUGHLY WITH SOAP AND WATER. INHAHALATION–IF AFFECTED BY INHALING VAPORS, MOVE PERSON TO FRESH ARI. IF BREATHING HAS STOPPED APPLY ARTIFICIAL RESPIRATION.CALL A DOCTOR IMMEDIATELY. INGESTION–IF SWALLOWED, DO NOT MAKE PERSON VOMIT. CALL A DOCTOR IMMEDIATELY.

SECTION VI – REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

NONE ESTABLISHED.

HAZARDOUS DECOMPOSITION PRODUCTS:

COMBUSTION CAN PRODUCE CARBON DIOXIDE, CARBON MONOXIDE, ACRYLEIN, SMOKE, ACRID FUME

CONDITIONS TO AVOID:

DIRECT HEATING, HIGH TEMPERATURE, POORLY VENTED HOT AREAS, FLAMES AND SPARKS.

INCOMPATIBILITY (MATERIALS TO AVOID):

STRONG OXIDANTS. WILL DISSOLVE AND SOFTEN SOME RUBBER AND PLASTICS.

SECTION VII – SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

REMOVE ALL IGNITION SOURCES, VENTILATE CONFINED SPACES, KEEP PEOPLE AWAY. ADD ABSORBENT SAND, EARTH, OR SAWDUST AND RECOVER INTO A SUITABLE CONTAINER.

WASTE DISPOSAL METHOD:

DISPOSE OF SPILLED AND ABSORBENT MATERIAL ACCORDING TO LOCAL, STATE, AND FEDERAL REGULATIONS. DO NOT DUMP INTO LAKES, STREAMS, OR OTHER WATER SUPPLY. CONSULT WITH HAZARDOUS WASTE REGULATORS REGARDING LANDFILL DUMPING AND OR INCINERATION.

SECTION VIII – SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION:

WEAR APPROVED ORGANIC VAPOR RESPIRATOR OR AN AIR SUPPLYING RESPIRATOR UNLESS VENTILATION EQUIPMENT IS ADEQUATE TO KEEP AIRBORNE CONCENTRATIONS BELOW THE EXPOSURE STANDARDS. OTHER SPECIAL PRECAUTIONS SUCH AS ENVIRONMENTAL CONTAINMENT DEVICES MAY BE REQUIRED IN EXTREME CASES.

VENTILATION:

GENERAL MECHANICAL VENTILATION MAY BE SUFFICIENT TO KEEP PRODUCT VAPOR CONCENTRATIONS BELOW SPECIFIED TLV RANGES. IF INADEQUATE, USE LOCAL EXHAUST.

PROTECTIVE GLOVES:

USE IMPERMEABLE SOLVENT RESISTANT GLOVES TO PROTECT FROM SKIN CONTACT.

EYE PROTECTION:

USE SAFETY GOGGLES, CHEMICAL SAFETY GLASSES AND OR FACE SHIELDS TO PROTECT EYES

OTHER PROTECTIVE EQUIPMENT:

IMPERMEABLE APRONS AND PROTECTIVE CLOTHING ARE ADVISED WHEN WORKING WITH THIS PRODUCT. THE USE OF HEAD CAPS ARE RECOMMENDED WHENEVER POSSIBLE.

HYGIENIC PRACTICES:

EYE WASHES AND SAFETY SHOWERS IN THE WORKPLACE ARE RECOMMENDED.

SECTION IX – SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

KEEP CONTAINERS CLOSED WHEN NOT IN USE. DO NOT STORE OR HANDLE NEAR HEAT, FLAMES AND STRONG OXIDANTS. INSPECT FOR LEAKS IN ALL CONTAINERS.

OTHER PRECAUTIONS:

DO NOT STORE IN FREEZING AREAS. KEEP ABOVE 40 degrees F. KEEP OUT OF REACH OF CHILDREN.

* * DISCLAIMER- THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED
* * ACCURATE. HOWEVER, NO WARRANTY, WHETHER EXPRESSED OR IMPLIED IS MAE.

KOREA CONFORMITY LABORATORIES

Add.: 1029-32 Hogyedong, Dongan-gu, Anyang-si, Gyeonggi-do, Korea

Tel.: 031-429-2308

Fax.: 031-429-2309

Url.: www.kcl.re.kr

Certificate of Testing (Inspection) Result

Sample No. of Issue : TSRB15007
Name of Applicant : NOROO Paint & Coatings Co., Ltd. Kim Soo Kyoung
Address of Applicant : 615, Bakdal 2-dong, Manan-gu, Anyang-si, Gyeonggi-do, Korea
Date of Receipt : 2010-11-15
Name of Test Sample : Green Enamel Interior (MPI 47)
Object of Test : Quality control
Test Result(s) : Please see the following page(s)

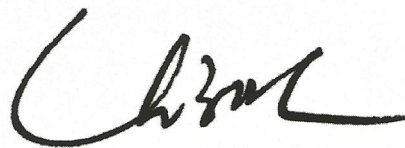
The above is the result of testing (inspection) specimen provided by the applicant, and the name of sample has been submitted by the applicant

Jan.
month

10
day

2011
year

Signed :



The general manager of Korea Conformity Laboratories



Certificate of Testing(Inspection) Result

Sample No. of Issue : TSRB15007

Date of Receipt : 2010-11-15

Name of Test Sample : Green Enamel Interior (MPI 47)

Result of Testing(Inspection)

Test Items	Unit	Sample	Results	Test Method
Consistency	K.U.	1	127	MPI # 47 : 2010
Dry time, Dry hard	h	1	4	MPI # 47 : 2010
Dry time, Tack free	min	1	30	MPI # 47 : 2010
Finess of Grind	NS	1	7	MPI # 47 : 2010
Flash point	°C	1	45	MPI # 47 : 2010
Gloss 60 degree	-	1	57	MPI # 47 : 2010
Hiding power	%	1	99.6	MPI # 47 : 2010
Reflectance	%	1	93	MPI # 47 : 2010
Scrubbability	%	1	15	MPI # 47 : 2010
Applicability and Appearance	-	1	pass	MPI # 47 : 2010
Cleaning Properties	-	1	No stain, $\angle E : 0.81$	MPI # 47 : 2010
Flexibility	-	1	pass	MPI # 47 : 2010
VOCs content	g/L	1	Not detected	EPA-method 24

