

2014

W10

# **LG Hausys** **floors**

Commercial Flooring Guide  
*... For all your flooring needs...*



[www.waysern.com](http://www.waysern.com)



**WAYSERN**  
**ENTERPRISE SDN. BHD.**  
(273049-M)



# COMPANY PROFILE

## Introduction

Waysern Enterprise Sdn Bhd (formerly known as Waysern Trading in 1989), was established in 1993 and since then we had evolved into a solution provider specialize on Industrial , commercial, sport, and ESD floor covering. Having associate with LG Hausys (Korea) as sole distributor in Malaysia, including other renowned brands we offer a wide range of high quality yet competitive floor covering ranging from petroleum based PVC covering to a greener solution - organic made covering.

Being the industrial veteran, we offer a wide range of services including consulting, supplying, installing, maintaining and pre/post installation treatment. For 23 years we had help solve our client problem by providing innovative solution and supportive after-sales service. An excellent floor finishing involve right solution, great product, quality workmanship, correct tools and proper installation method, in Waysern we have all the qualifications and able to tackle projects of any size or number.

We provide products and services as listed below :

- \* PVC floor covering with specialize properties including
  - ~ Synthetic Indoor Multi Sport Floor
  - ~ Heavy Duty PUR Vinyl Sheet
  - ~ Chemical Resistance and Anti-Bacterial
  - ~ Antistatic and Anti Iodine
  - ~ Clean-Room Vinyl Sheet (Class 10K, 100K)
  - ~ Electro Static Discharge (ESD - Conductive and Static Dissipative)
- \* Underlayment Compound (improve the undulation of subfloor)
- \* Waterproofing system (Moisture and Vapour barrier)
- \* Installation and Maintenance

Our company has excellence track record with various industries such as semiconductor, healthcare, educational and government organization. Having supported by experienced sales personnel and well-trained installer, Waysern is able to tackle wide range of project effectively and efficiently. We shall always strive to provide high quality product and unrivalled floor finishing enhancing our client satisfactions.

For further information and assistance, you may contact below staff :  
ALICIA LEE, Business Development Manager at 012 - 428 1347  
NORHAFIZA, Project Business Development at 016 - 663 4638  
GEAM PEH LUN, Admin Officer at 016 - 443 4638

### *It's* STRIDE To Takes Contract Project

#### ABRASION'S CLASSIFICATION:

Abrasion Resistance	Better Grade	Abrasion Group (EN649)		F
	T	P	M	
Thickness Lost EN 660-1	< 0.08mm	0.08 - 0.15mm	0.15mm - 0.30mm	0.30mm - 0.60mm
Volume Lost EN 660-2	< 2.0mm <sup>3</sup>	2.0 - 4.0mm <sup>3</sup>	4.0 - 7.50mm <sup>3</sup>	7.5 - 15.0mm <sup>3</sup>



# COMPANY DETAIL

**Company Name:** WAYSERN ENTERPRISE SDN BHD

**Company Registered No.:** 273049-M

**Business Address:** No.1, Lintang Beringin 10,  
Diamond Valley Industrial Park,  
11960 Bayan Lepas, Penang.

**Telephone Number:** 04-6266 791, 626 4831

**Fascimile Number:** 04-626 4832

**E-mail Address:** waysern.ent.sb@gmail.com

**Company Established:** 12th Of August 1993

**Company Secretary:** Cosearch Management Services Sdn Bhd (175565 K)  
Suite D2. 51-13-D, Menara BHL,  
Jalan Sultan Ahmad Shah, 10050 Penang.

**Company Auditor:** SKL & CO (AF 1512)  
No.27A-1, Jalan SS24/11, Taman Megah,  
47301 Petaling Jaya, Selangor.

**Managing Director:** Chan Huat Kong, Ong Kok Lee

**Bank Detail:** ALLIANCE BANK MALAYSIA BERHAD  
**Bank Address:** Ground & Mezzanine Floor, Wisma Malvest,  
No.20 & 20a, Jalan Tun Dr. Awang,  
Sungai Nibong Kecil, 11900 Bayan Lepas, Penang.

**Bank Account No:** 07020-0-01-018669-8  
**Bank Swift Code:** MFBBMYKL

**Bank Detail:** PUBLIC BANK BERHAD  
**Bank Address:** No.5,7,9 & 11, Lorong Kampung Jawa  
Bandar Bayan Baru, 11900 Bayan Lepas, Penang.

**Bank Account No:** 3095 27 3422  
**USD Account No:** 3590 26 4334  
**Bank Swift Code:** PBBEMYKL

**Licenses Obtained:** Pusat Khidmat Kontraktor (PKK)  
Kelas D, Kepala: I & II, Sub Kepala : 1 & 7B

Constrcution Industry Development Board Malaysia (CIDB)  
Gred & Kategori Berdaftar: G2 B B13

Kementerian Kewangan Malaysia: Hiasan Dalaman & Bangunan

**Product Certificate:** SIRIM, ISO 9001, ISO 14001, FloorScore to LEED, Cfl - S1,  
Law Carbon Green Growth Korean Award





# CONTENTS

## Indoor Synthetic Multi Sport Floor & Padded

~ **LG Multi**

~ **LG Rexcourt**

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Application

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Sport Activities, Children Play Area,  
Physiotherapy, Healthcare Rehabilitation,  
Church & Community Facilities  
Multipurpose, Recreation Centre

## Heavy Duty PUR Vinyl Sheet

~ **LG Supreme**

~ **LG Trendy**

~ **LG Basic**

~ **LG Unite**

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Hospital, Healthcare, Education Institutions,  
Kindergarden, Laboratories Government  
Organizations

## Antistatic & Chemical Resistance PUR Vinyl Sheet

~ **LG COMPACT**

7-8

Hospital, Healthcare, Education Institutions,  
Lab and Pharmaceutical

## Antislip Heavy Duty PUR Vinyl Sheet

~ **LG Transportation**

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Transports Vessels, Stairs Restaurant, Dept.  
Store, Public Environments

## Acoustic / Cushioning Heavy Duty PUR Vinyl Sheet

13-15

~ **LG Delight**

~ **LG Calmpasso**

~ **LG Comfort**

Library, Hospitality Space, Nursing Homes,  
Nursery, Education Institutions

## Static Control Flooring

~ **LG Static Pulse ESD Tile (Conductive, Dissipative)**

19-20

Clean Rooms, OT Rooms, Electronics  
Manufacturing, Explosives & Inflammable  
Gas Treating Places

## Heavy Duty Composite Vinyl Tile

~ **LG Gallant Tile GR Series**

~ **Deco Tile - Wood Grain and Laser Crack**

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Schools, Offices, Walkway, Retail Outlet,  
Shops, Hotels, Restaurants,  
Old Folk Homes

## Method of Statement

22-24

Installation procedure

## Environmentally Friendly Product - ECO Friendly

We are evolving into a green and clean company through environmental management.



Waste recycling VA activities

## Environment Management System

**LG Hausys**



Promotion of Voluntary  
Agreement In Environment



Operation of environment  
& safety IT system



Voluntary agreement for  
reduction of toxic release



Pollutant release to the  
environment reduction activities



ISO14001



KOSHA



BUREAU  
VERITAS

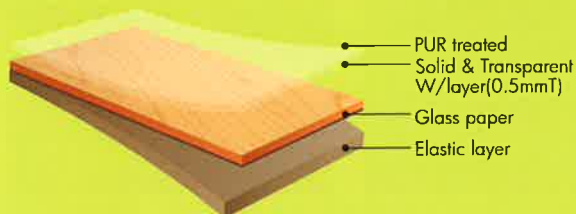
1. ISO 14001: Environmentally Management system

2. KOSHA18001 / OHSAS18001: Occupational safety and health management system certification  
and designation of environment and safety management system





## Structure



## Characteristic

1. Flooring which covers from commercial, multi-purpose to sports activity.
2. Best choice for both Multi-purpose and sports activity by excellent sporting performance and safety-related property.
3. User-friendly benefit with sound reduction and shock-absorbing structure.
4. Popular solid colours and sophisticated wooden designs.



- Shock absorption
- EN 14808
- Safe flooring by shock absorbing structure for kids and seniors



- Impact sound reduction
- EN ISO 140-8
- Comfortable and sound absorbing flooring for commercial usage



- Sliding coefficient
- NF EN 12235
- Optimal slip-resistance for sports and multi-use activity



- Superior ball rebound
- NF EN 12235
- Exceeds the requirement of EN standard for professional sports flooring



- Resistance to static load
- NF EN 1516
- Excellent durability for heavy traffic and sports activity

## Technical Data

EN 14 904 (Surfaces for sports areas - indoor surfaces for multi-sports use.)

	Test Items	Test Standard	Unit	Requirement	Test Result
Description	Roll width		m		1.8
	Roll length		m		20
	Total thickness	EN 428	mm		3.5
	Wear layer thickness	EN 429	mm		0.5
	Weight	EN 430	Kg/m <sup>2</sup>		2.5
Technical Aspects	Sliding coefficient	NF EN 13036-4	-	80-110	Average 84
	Shock absorption	EN 14808	%	Min.25	/
	Vertical ball rebound	NF EN 12235	%	≥90	≥98
	Resistance to wear	EN ISO 5470-1	g	Synthetic surface: ≤1.00	Fulfilled (<0.2)
	Impact sound reduction	EN ISO 140-8	dB	-	18
	Resistance to static load	NF EN 1516	mm	≤0.5	Fulfilled (<0.2)
	Resistance to impact	NF EN 1517	-	No damage	No damage
	Fire behavior	EN 13501	-	-	Cfl - s1

## INDOOR SPORT

Advanced vinyl floor engineered for multipurpose and indoor sports

## SOLID



Dark Green

MLT 6606-01



Sky Blue

MLT 6403-01



Dark Blue

MLT 6400-01



Gray

MLT 6303-01



Orange

MLT 6901-01



Red

MLT 6200-01

## WOOD



Amur Maple

MLT 1331-01



Tinged Maple

MLT 1332-01



Monsoon Teak

MLT 0055-01



Tropical Teak

MLT 0056-01

\* Actual colour may vary in detail from colours shown





## Structure



### Easy Maintenance

Polyurethane coating provides excellent resistance to dirt building-up while providing a durable surface.

100% vinyl wear Layer

Superior durability

Reinforced woven glass paper inner layer

Excellent dimensional stability

Closed cell foam backing

- Excellent shock - resistance

- Superior stability, no shifting underfoot

- Good energy return for extended activities

## Characteristic

1. Designed for sports flooring where shock absorption, elasticity, and other demanding requirements are needed.
2. Polyurethane coating makes maintenance easy and economical.
3. 100% vinyl wear layer offers extra durability.
4. Dimensional stability delivers stable playing surface for athletic protection.
5. Closed cell structure offers superior noise level reduction.
6. Available in wood and solid visuals to meet most design requirements for sports flooring - Futsal, Badminton, Sepak Takraw, Volleyball, Netball and Basketball.

## Application

Multipurpose and Sports Facilities in Universities, Schools, Fitness Clubs, Studio, Dance floors, Party Room, Rehabilitation, Physiotherapy, Children Play Area, Kindergarten, Recreational Facilities and Food Service Areas.



### • Shock absorption

- safe for all court sports
- EN 14808 / DIN 18032-2
- 30% (G-4000)
- 33% (G-6000)
- 48% (G-8000)
- 25% (0.3mm T Badminton / Table Tennis)



### • Friction

- Optimal slip resistant property provides a safe playing surface
- NF EN 13036-4



### • Behaviour under a rolling load

- Superior durability under heavy rolling and static load limits
- NF EN 1569



### • Vertical deformation

- Excellent power return enables athletes to increase their on-court performance
- Superior vertical stability eliminates "area" indentation preventing instability
- EN 14809



### • Superior ball rebound

- NF EN 12235



### • Resistance to static load

- Excellent durability for sports activities
- NF EN 1516

## EN 14 904 (Surfaces for sports areas - Indoor surfaces for multi-specification)

	Test Items	Test Standard	Unit	Requirement	Results			
					Badminton Table Tennis	G-4000	G-6000	G-8000
Description	Roll width		m		1,8	1,8	1,8	1,8
	Roll length		m		16 (Badminton) 14 (Table Tennis)	20	15	11
	Total thickness		mm		3,9	4,5	6,5	8
	Weight		kg/m2		2,7	3,1	4,3	4,8
Player / Surface Interaction	Friction	NF EN 13036-4	-	80-110	Average 84	Average 93	Average 87	Average 87
	Shock absorption	EN 14808	%	Min,25	/	/	≥ 25	≥ 25
	Vertical deformation	EN 14809	mm	≤ 5,0	0,5	1,0	1,0	1,0
Technical Aspects	Vertical ball rebound	NF EN 12235	%	≥ 90	Average 100	Average 99	Average 96	Average 99
	Behavior under a rolling load	NF EN 1569	-	No damage	No damage	No damage	No damage	No damage
	Sound Absorption	ISO 717-2/DIN 18032-2	dB		20dB	24dB	25dB	28dB
	Resistance Indentation	NF T 54-209/DIN 18032-2	mm	<0.50mm	0,13mm	0,17mm	0,19mm	0,22mm
	Resistance to wear	EN ISO 5470-1	g	Synthetic surface: ≤1,00	0,23	0,19	0,21	0,21
	Specular gloss	EN ISO 2813	%	Mat: ≤ 30	7,4	25	23	22
	Resistance to static load	NF EN 1516	mm	≤ 0,5	Average 0,13	Average 0,23	Average 0,33	Average 0,31
	Resistance to impact	NF EN 1517	-	No damage	No damage	No damage	No damage	No damage
	Resistance to repeated impact	TS 15122	-		No damage	No damage	No damage	No damage

\* The above value may change for quality improvement without notice.

Designed for sports flooring where shock absorption, elasticity, and other requirements for sports activity are needed.

## WOOD



Golden Cherry SPF 1451



India Cherry SPF 1452



Tiger Oak SPF 1821



Antique Oak SPF 1823



Grand Maple SPF 2001



Beech SPF 1001



Noble Zelkova SPF 1811



Windsor Oak SPF 1822

## BADMINTON



Lawn Green SPF 6602



## TABLE TENNIS



Burgundy SPF 6202



## SOLID



Green SPF 6603



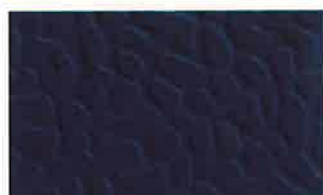
Dark Green SPF 6606



Blue SPF 6402



Sky Blue SPF 6403



Dark Blue SPF 6400



Black SPF 6800



Gray SPF 6303



Beige SPF 6301



Yellow SPF 6500



Orange SPF 6901



Red SPF 6200





## Construction



> Specification: 1.8mm x 2M (0.3mm Wear Layer)  
\* Option: 2.0mm x 2M (0.5mm Wear Layer)

## Characteristic

### 1. Durability

Supreme has excellent durability by extra hard surface resistance

### 2. Easy Cleaning and low maintenance cost

No Wax & No Polish applied on the PUR treated surface

### 3. Realistic embossment and design

Supreme provides an unique and natural pattern

### 4. Heat resistance

Supreme has strong resistance to heat

### 5. High-Performance PUR (Easy Clean UV)

Anti-bacterial & fungal treated for hygienic use Anti-contaminations function

## Applications

Corridor, Wards, Cafeterias, Retail Stores, Restaurants and Canteens, Offices, Hospitals, Colleges, University, Residences etc.

Standard	Property	Test Standard
EN 685/649	Classification	23/31
	Roll length	20m
EN 426	Width	2m
EN 428	Overall thickness	1.8mm / 2mm
EN 429	Wear layer thickness	0.30mm / 0.5mm
EN 430	Total mass per unit area	2,500 g/m <sup>2</sup>
EN 433	Residual indentation	0.05mm
EN 434	Dimensional change after exposure to heat Curling after exposure to heat	machine direction: 0,05% transversal: -0,10% 0mm
EN 435 Verf.A	Flexibility	<20mm
EN ISO 20105-B02	Colour fastness to light	>6
EN 684	Seam strength, welded with liquid welding	280 N/50mm
EN 425	Castor chair suitability	Fulfilled
EN 13501-1	Reaction to fire	Bfl- S1
Bacteriostatic treatment		Fulfilled

\* The above value may change for quality improvement without notice.

## MARBLE



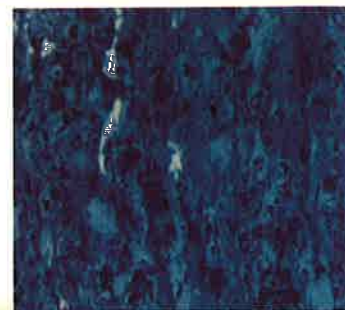
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SPR 9039-01



SPR 9034-01



SPR 9036-01



SPR 9031-01



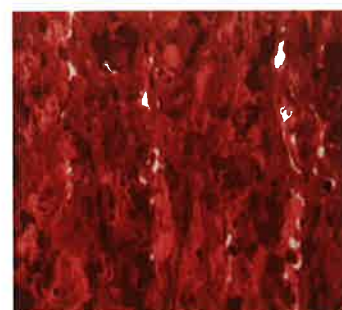
SPR 9032-01



SPR 9037-01



SPR 9038-01



SPR 9035-01

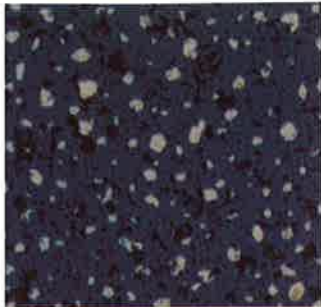
\* Actual colour may vary in detail from colours shown



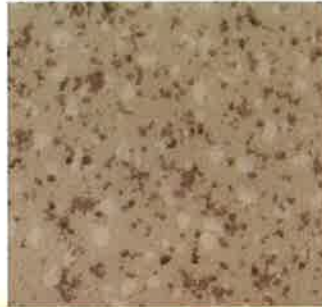
## Heavy Duty PUR Vinyl Sheet

Specialized vinyl floor featuring superior resistance to abrasion and loading

### DOT



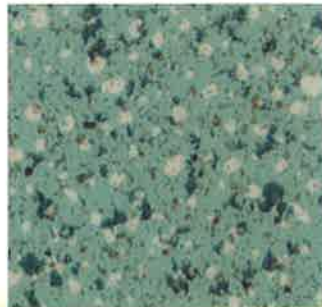
SPR 1315-01



SPR 1317-01



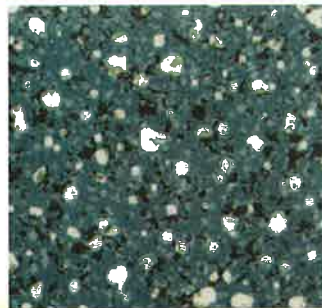
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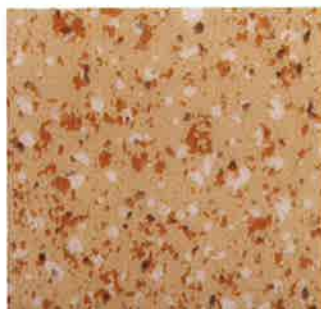
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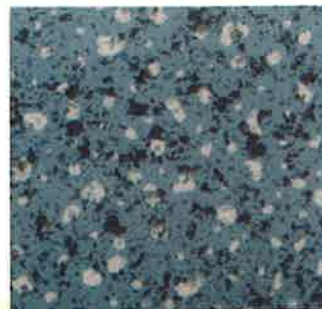
SPR 1307-04



SPR 1305-01



SPR 1302-01



SPR 1309-01

### WOOD



SPR 0261-02



SPR 0262-02



SPR 8081-02



SPR 8082-02



SPR 9461-02



SPR 9462-02



SPR 8801-02



SPR 8802-02



SPR 7773-02

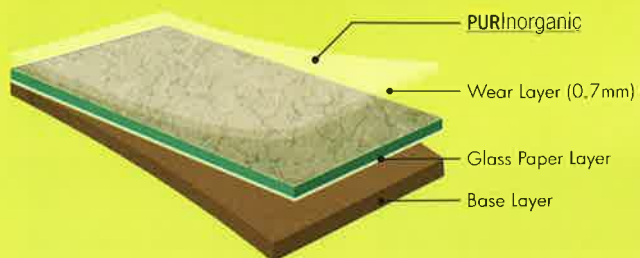


SPR 7774-02



Provides excellent resistance of abrasion against the heavy traffic and satisfying aesthetic need with practical design features.

## Structure



- Specification: 2.0T x 2M (W/layer 0.7mm)
- New surface treatment for strong resistance to iodine solution
- Upgraded resistance to scratch with New surface treatment **PURInorganic**
- Inspiring design series of Dot & Chip pattern (CT 905) and New Ancient pattern (CT 123)

## Physical Data

Standard	Characteristic	Result
	Surface treatment	<b>PURInorganic</b> (anti-iodine treated)*
	Format	Sheet
	Roll length	20m
EN 685	Classification	34/43
EN 426	Width	2,000mm
EN 428	Thickness	2.0m
EN 430	Weight	2,950 g/m <sup>2</sup>
EN 429	Thickness of wear layer	0,70mm
EN ISO 20105-B02	Colour fastness to light	>6
EN 435	Flexibility	None cracking
EN 433	Indentation	Fulfilled
EN 434	Dimensional stability	<0.10%
EN 425	Castor chair suitability	Yes
EN 1081	Electrical resistance	$R \leq 10^9 \Omega$
EN 1815	Body voltage	$\leq 2kV$
EN 660-2	Wear resistance	2,2mm <sup>3</sup>
EN 13893	Slip resistance	DS: $\geq 0.30$
DIN 51130		R9
EN 13501-1	Reaction to fire	Cfl - S1
EN 423	Chemical resistance	High resistance
EN ISO 140-8	Impact sound reduction	5
EN ISO 846	Fungal Resistance	No growth

\* Compact's anti-iodine function isn't valid when  
 1. exposed to some iodine solution except for 10% povidone- iodine solution  
 2. PUR is abraded  
 3. Polish or wax is covered on PUR for maintenance



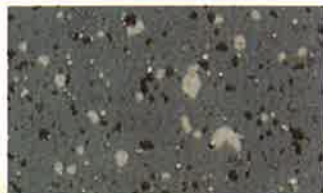


Creativity and extreme durability to reach perfection

## DOT & CHIP



CT 90511-01



CT 90521-01



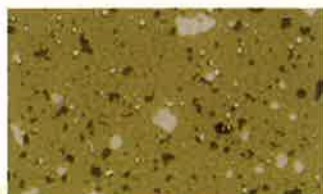
CT 90512-01



CT 90522-01



CT 90513-01



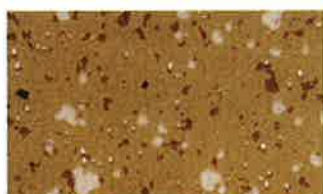
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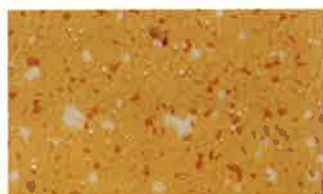
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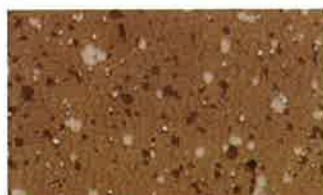
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CT 90514-01



CT 90518-01



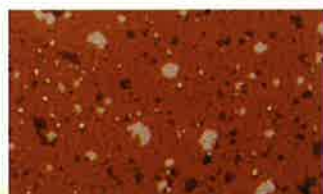
CT 90515-01



CT 90517-01



CT 90524-01



CT 90516-01

## ANCIENT



CT 12301-02



CT 12311-02



CT 12302-02



CT 12307-02



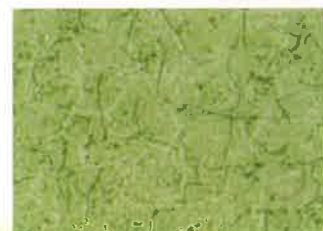
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CT 12308-02



CT 12304-02



CT 12309-02



CT 12305-02



CT 12310-02



CT 12306-02

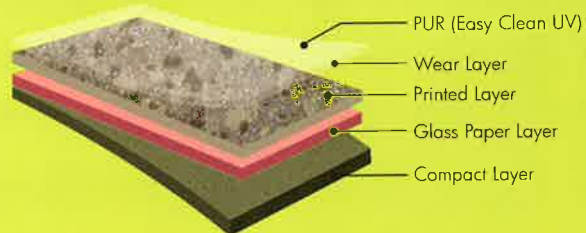
\* Actual colour may vary in detail from colours shown



Introduces innovatively renewed benefit for commercial market segments with upgraded function and design series.



## Construction



- Specification: 2.0T x 2M (Wear layer 0.5mm)
- Glass paper inlaid for dimensional stability
- Special surface treatment for easy maintenance

## Technical Data

Product specification according to EN 649

Characteristic	Standard	Result
Surface Treatment		PUR (Easy Clean UV) Antibacterial
Format		Sheet
Classification	EN 685	23/33 Residential very heavy Commercial heavy
Roll Length		20 m
Width	EN 426	2,000 mm
Thickness	EN 428	2,0 mm
Weight	EN 430	2,864g/m <sup>2</sup>
Thickness of wear layer	EN 429	≤0.50 mm
Indentation	EN 433	0,04 mm
Dimensional Stability	EN 434	10.00% W-0.05%/(<0.10%)
Colour Fastness to Light	EN ISO 20105-B02	>6
Wear Resistance (wear group)	EN 660-2	Wear Group T
Castor Chair Suitability	EN 425	Yes
Reaction to Fire	EN 13501-1	Bfl-S1
Chemical Resistance	EN 423	High resistance
Fungal Resistance	EN ISO 846	No growth

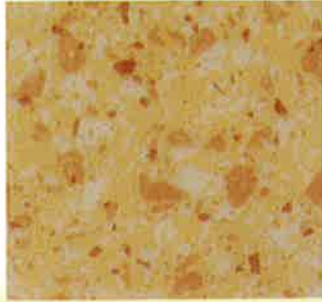


Bring your space a trendy & practical life style

## SPECKLE



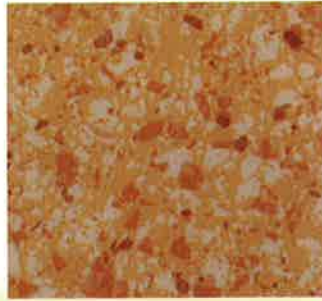
TD 12401



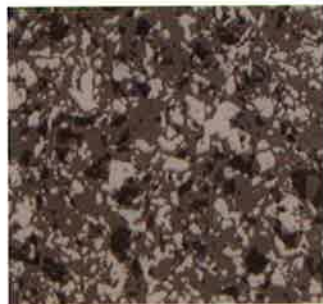
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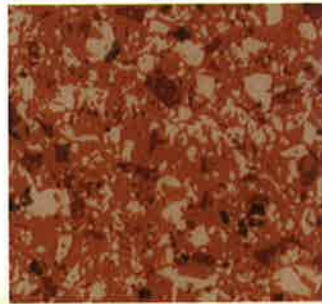
TD 12402



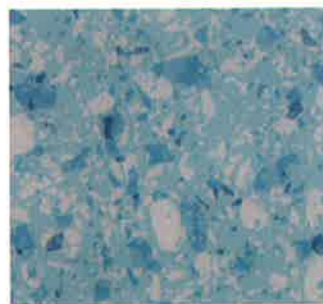
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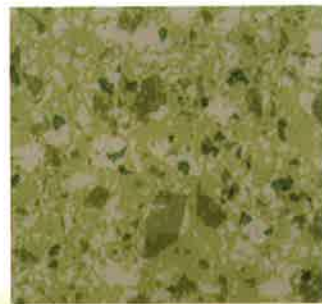
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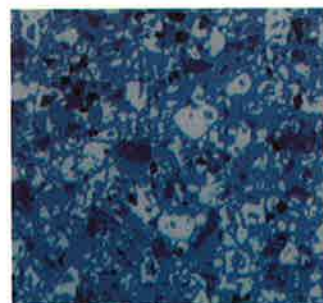
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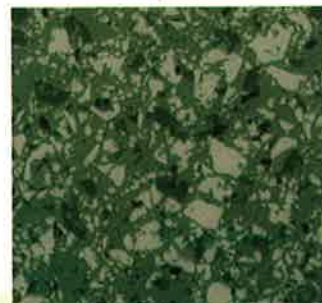
TD 12407



TD 12409



TD 12408



TD 12410

## CLOUD



TD 12501



TD 12505



TD 12502



TD 12506



TD 12503



TD 12507



TD 12504



TD 12508



TD 12510



TD 12509



Specialized vinyl floor for chemical resistance and Anti-bacteria effects.



BAS 4102-01

Misty Gray



BAS 5306-01

Mint



BAS 4101-01

Ash Gray



BAS 4105-01

Light Blue



BAS 4402-01

Slate Gray



BAS 4019-01

Steel Blue



BAS 4005-01

Charcoal Gray



BAS 3928-01

Navy



BAS 1122-01

Wheat Beige



BAS 2706-01

Lavendar



BAS 1314-01

Moccasin



BAS 1310-01

Peach



BAS 1422-01

Terracotta



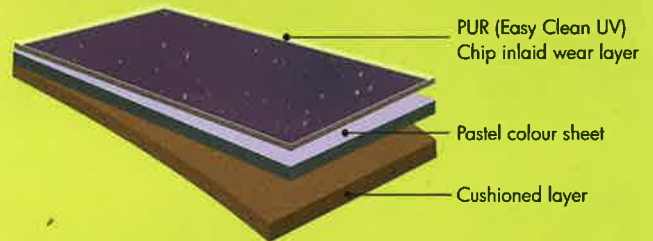
BAS 1512-01

Sienna



## Structure

- Specification: 2.3mm (T) x 2.0m (W) (W/layer 0.5mm)
- Pastel-toned solid colour sheet & Chip inlaid film
- PUR for easy maintenance & Noise reduction benefit
- Option with 2mmT with PVC layer backing



## Characteristic

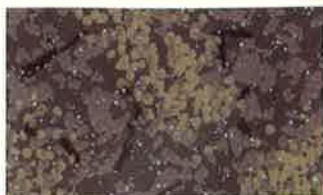
- Pastel-shaded design in soft chalk chroma
  - Well-planned combination of 14 pastel-toned colour sheet and chip-inlaid film for soft outlook
- More aesthetic interior with mosaic installation in solid colour combination
  - Especially for kids and creativeness required space
- Optimal benefit for commercial flooring
  - Noise absorbing benefit ( $\Delta$  13db, EN ISO 140-8)
  - Easy maintenance with specially treated PUR (Easy Clean UV)

Characteristic	Test Standard	Unit	Result
Surface Treatment			PUR (Easy Clean UV) Antibacterial
Format			Sheet
Classification	EN 685		23/33 Commercial heavy Residential heavy
Roll length		m	20
Width	EN 426	mm	2,000
Thickness	EN 428	mm	2.30 (Option 2.00T)
Weight	EN 430	g/m <sup>2</sup>	2,150
Thickness of wear layer	EN 429	mm	0.50
Indentation	EN 433	mm	<0.4
Dimensional stability	EN 434	%	fulfilled
Castor chair suitability	EN 425	-	Suitable
Effect of furniture leg	EN 424	-	No damage
Colour fastness to light	EN ISO 20105-B02	-	>6
Wear group	EN 660	-	Group T
Slip resistance	EN 13893	-	DS: $\geq$ 0.3
Impact sound reduction	EN ISO 140-8	$\Delta$ db	> 13
Reaction to Fire	EN 13501-1	-	Cfl -S1



Anti-slip and hard wearing properties

## D-SERIES



DLB 1321-01



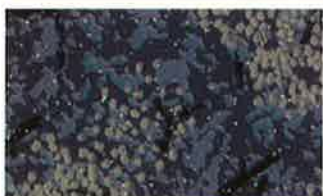
DLB 8835-01



DLB 1322-01



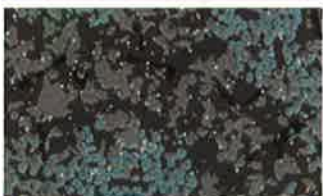
DLB 8839-01



DLB 1323-01



DLB 9105-01



DLB 1324-01

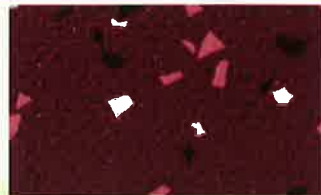


DLB 9109-01

## E-SERIES



ELT 7001-01



ELT 7006-01



ELT 7002-01



ELT 7007-01



ELT 7003-01

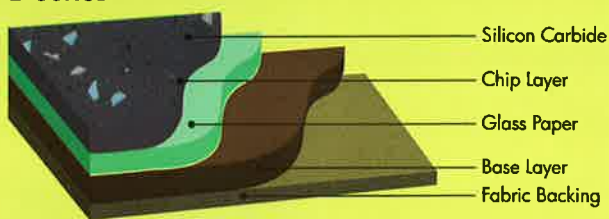


ELT 7008-01

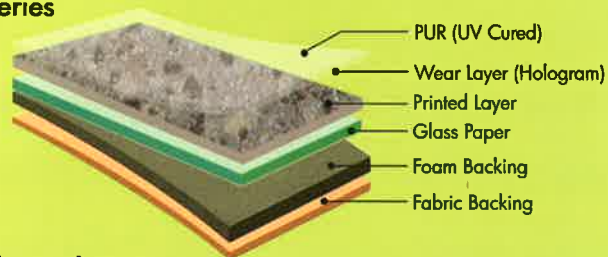


ELT 7004-01

### Structure E-Series



### D-Series



### Characteristics

#### E-Series

- Exclusive design with harmonious combination of various colour chip and Silicon Carbide (SiC)
- Excellent slip resistance ingrained with Silicon Carbide (SiC)
- Strong resistance against abrasion, hook Indentation and scratch
- Enhanced adhesiveness to subfloor with fabric backing structure

#### D-Series

- Elegant exterior with hologram ingrained wear layer
- Easy maintenance with UV Cured PUR
- More comfortable walk for passengers with foam backing layer
- Enhanced adhesiveness to subfloor with fabric backing structure

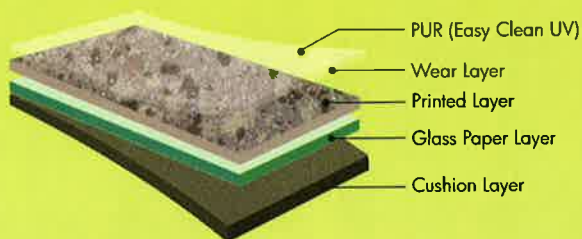
### Technical Data

Characteristic		Product	
		D-Series	E-Series
Design		Printed	Sic & Chip Inlaid
Roll length		20m	20m
Width	EN 426	2,000mm	2,000mm
Thickness	EN 428	2.2m	2.0m
Weight	EN 430	2,040 g/m <sup>2</sup>	2,580 g/m <sup>2</sup>
Thickness of wear layer	EN 429	0.50mm	0.50mm
Indentation	EN 433	0.27mm	0.07mm
Dimensional stability	EN 434	≤ 0.05%	≤ 0.05%
Castor chair suitability	EN 425	Fulfilled	Fulfilled
Colour fastness to light	EN20105-B02	≥ 6	≥ 6
Reaction to fire	EN 13501-01 ASTM E 648	>0.45Watts/cm <sup>2</sup>	Bfl - S1



High sound-absorbing benefit and optimal resistance to indentation by technically designed structure

## Construction



## Characteristics

### Comfort

- Superior Durability
  - Extremely durable surfaces with 1.1 mm Pure wear layer
- Acoustic performance and good indentation
  - Impact sound reduction (ISO 140-8):  $\Delta 14$  db
  - Residual Indentation (EN 433): Fulfilled
- Maintenance cost saving with special surface treatment
  - Enhanced resistance to scratch through Silica-ingrained PUR
- **PURInorganic**
  - Stronger resistance to exterior contaminants with micro bead ingrained PUR

### Delight

- Modernized fashion
  - Hologram applied surface (883 pit'n) emphasized its reality
- Excellent chemical resistance
  - Specially customized surface coating reinforces chemical resistance
- Easy cleaning and low maintained cost
  - No Wax & No Polish applied on the PUR treated surface
- Anti-bacteria & antibiosis
  - Special Nano silver treatment gives excellent resistance to bacteria

### Calmpasso

1. Superior impact sound reduction with high wear resistance.
2. Comfortable pattern & colour for healthcare facilities.
3. Superior abrasion - resistance wear layer
  - : 0.5mm for 2.6mm (T), 0.7mm for 3.2mm (T)
4. Easy cleaning and low maintenance cost
  - No Wax & No Polish applied on the PUR treated surface
5. Anti-bacterial & Fungal treated for hygienic use.

## Technical Data

Characteristic	Standard	Unit	Results			
			Comfort	Delight	Calmpasso 2.6mmT	Calmpasso 3.2mmT
Surface Treatment			<b>PURInorganic</b>	PUR (Antibacterial)	PUR (Antibacterial)	PUR (Antibacterial)
Format			Sheet	Sheet	Sheet	Sheet
Classification	EN 685		23/34	23/33 <small>Residential very heavy Commercial heavy</small>	23/33	23/33
Width	EN 426	mm	2,000	2,000	2,000	2,000
Thickness	EN 428	mm	3.3	2.2	2.6	3.2
Weight	EN 430	g/m <sup>2</sup>	3,520	2,040	2,740	2,950
Roll Length		m	18	20	20	20
Thickness of Wear Layer	EN 429	mm	1.1	0.50	0.50	0.70
Indentation	EN 433	mm	Fulfilled	$\leq 0.30$	0.30	0.37
Dimensional Stability	EN 434	%, mm	$< 0.10$	L 0.05%, W -0.10%	Fulfilled	Fulfilled
Castor Chair Suitability	EN 425		Suitable	Suitable	Suitable	Suitable
Colour Fastness to Light	EN ISO20105-B02		$> 6$	$> 6$	$\geq 6$	$\geq 6$
Slip Resistance	DIN 51130, DIN 51130:2004		R9	R9	R9	R9
	EN 13893		DS: $\geq 0.30$			
Impact Sound Reduction	EN ISO 140-8	$\Delta db$	14	15	17	14
Electrostatic Behavior	EN 1815		2 KV	2 KV	2 KV	2 KV
Reaction to Fire	EN 13501-1, ASTM E-648		Cfl-S1	$> 0.45$ watts/cm <sup>2</sup>	Cfl-S1	Cfl-S1
Anti Bacterial	AATCC 147		No Growth	No Growth	No Growth	No Growth
Wear Group	EN 660, EN660-2		Group T	Group T	Group T	Group T
Effect of Furniture Leg	EN 424		Fulfilled	Fulfilled	Fulfilled	Fulfilled
Chemical Resistance	ASTM F925-02		No Change	No Change	No Change	No Change
Flexibility 20mm mandrel	EN 485		Fulfilled	Fulfilled	Fulfilled	Fulfilled
Resistance to chemicals	EN 423		Fulfilled	Fulfilled	Fulfilled	Fulfilled
Fungal resistance	EN ISO 846		No Growth	No Growth	No Growth	No Growth



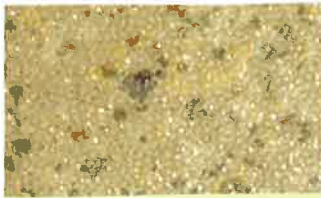
## Antistatic / Chemical Resistance

Specialized vinyl floor with Chemical Resistance,  
Anti-bacteria and Antistatic properties

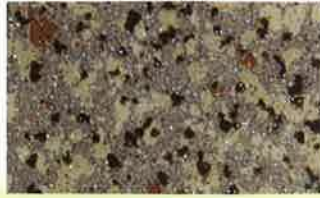


ACOUSTIC

### DELIGHT



DLT 8831-01



DLT 8835-01



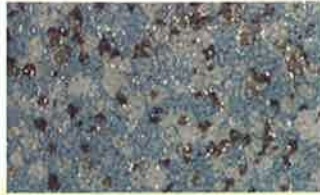
DLT 8833-01



DLT 8832-01



DLT 8834-01



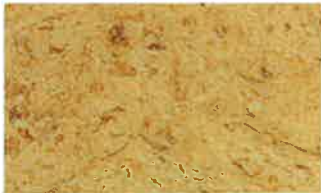
DLT 8836-01



DLT 8839-01



DLT 8837-01



DLT 9102-02



DLT 9103-02



DLT 9104-02



DLT 9101-02



DLT 9109-02



DLT 9108-02



DLT 9105-02



DLT 9100-02



DLT 9106-02

### COMFORT



AC 10101-01



AC 10102-01



AC 10103-01



AC 10104-01



AC 10105-01



AC 10106-01



AC 10107-01



AC 10111-01



AC 10112-01



\* Actual colour may vary in detail from colours shown



## CALMPASSO



CP 93401



CP 93402



CP 93403



CP 93408



CP 93404



CP 93411



CP 93409



CP 93410



CP 93412



CP 93405



CP 93406



CP 93407



CP 93501



CP 93504



CP 93503



CP 93502



CP 93509



CP 93512



CP 93508



CP 93510



CP 93511



CP 93505



CP 93506



CP 93507

## COMFORT



AC 10110-01



AC 10108-01



AC 10109-01





## Structure



## Characteristic

1. Marbles are inserted from the surface all the way down to the subsurface to maintain the initial color and shape even when worn off.
2. Surface is sanded, buffed and a double wax coating is applied.
3. Cutting edge "Squaring Technology" allows for the tightest fit.
4. Excellent Durability: Through-Chip Homogeneous.
5. The maintenance is relatively easy and the lifetime is semi permanent due to its excellent endurance.

## Application

Office, School, Hospital, Store, Passage, etc.

## Technical Specifications

### • Reference Specification

ASTM F 1066

Class II, Through Pattern Tile

### • General Properties

Item	Test Standard	Unit	Specification
Size	ASTM F 536	mm	300/450
Thickness	ASTM F 386	mm	2.0/3.0
Squareness	ASTM F 540	mm	≤0.254
Dimensional stability	Fed.Std.501a(6211)	mm	Passed
Indentation	ASTM F 1914	mm	Passed
Resistance to chemicals	ASTM F925-02	-	Passed
Static Load Limit	ASTM F970	-	0.001(250 psi)
Resistance to Heat	ASTM F1514-98	-	1-16
Resistance to Light	ASTM F1515-98	-	1-34

### • Fire Resistance

Critical Radiant Flux	ASTM E 648	W/cm <sup>2</sup>	≥0.45Watts/cm <sup>2</sup>
			NFPA Class I
Smoke Density	ASTM E 662	-	<450 - Passed

### • General Properties

ISO 9001 - Quality Management System Standard

ISO 14001 - Environmental Manufacturing Standard

LG Hausys Responsible Care - Global Commitment and Initiative

## Packing

- 2.0mmt x 300mm x 300mm : 55 Pieces / Carton (4.95SQM)
- 3.0mmt x 300mm x 300mm : 37 Pieces / Carton (3.33SQM)
- 2.0mmt x 450mm x 450mm : 24 Pieces / Carton (4.86SQM)
- 3.0mmt x 450mm x 450mm : 16 Pieces / Carton (3.24SQM)



GR 01



GR 02



GR 03



GR 04



GR 05



GR 06



GR 07



GR 08



GR 09



GR 10



GR 11



GR 12



LG Hausys offers the latest Homogeneous flooring, UNITE - stronger adhesiveness to subfloor with polyester membrane and enhanced surface with special PUR treatment.

## Construction



- LG Hausys offers the latest homogeneous flooring for heavy traffic with group T abrasion
- Polyester membrane reinforced
- Special PUR treated (PURInorganic)

## Characteristics

- Upgraded homogeneous flooring with polyester membrane for easier installation
- Enhanced durability (Wear group T) by high-density homogeneous layer
- Maintenance cost saving by strong resistance against scratch by PURInorganic
- The clean flooring for healthcare application with hygienic function against bacteria and fungi

## Technical Data

Product specification according to EN 649

Characteristic	Standard	Unit	Result
Surface Treatment			PURInorganic
Type of floorcovering	EN 649		Homogeneous sheet vinyl flooring
Classification	EN 685		34/43 Commercial very heavy Industrial Heavy
Roll Length		m	18
Width	EN 426	m	1.83
Weight	EN 430	g/m <sup>2</sup>	3,200
Wear Group	EN 660-2	mm <sup>3</sup>	Group T Less of volume <1.0
Wear layer thickness	EN 429	mm	2.0mm Homogeneous layer
Indentation	EN 433	mm	Approx. 0.03
Castor Chair Suitability	EN 425		No Damage
Colour Fastness to Light	ISO 20105-B02		>6
Chemical resistance	EN 423		High resistance
Slip Resistance	EN 13893 DIN 51130		DS: ≥0.30 R9
Impact Sound Reduction	EN ISO 140-8	Δdb	Approx. 2
Electrostatic Behavior	EN 1815	kV	<2
Fungal resistance	EN ISO 846		No growth
Reaction to Fire	EN 13501-1		Bfl-S1







The ideal flooring solution for heavy traffic with natural design and super durability



UTE 1001

Sea Salt



UTE 1002

Dove White



UTE 1003

Oyster White



UTE 1004

Grey Pepper



UTE 1005

Wheat



UTE 1013

Oats



UTE 1006

Barley



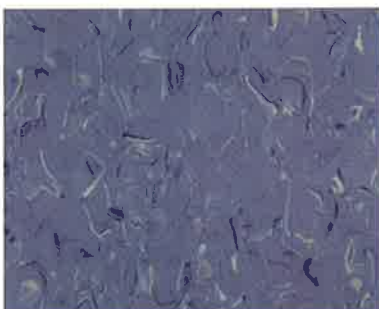
UTE 1007

Cocoa bean



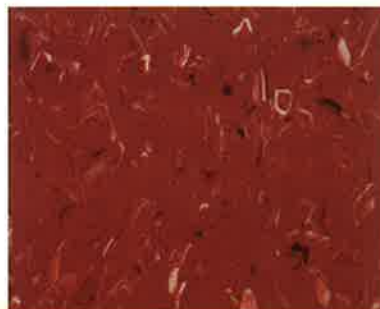
UTE 1023

Spearmint



UTE 1009

Agave



UTE 1008

Salsa



UTE 1011

Pistachio



UTE 1010

Curacao



UTE 1017

Graphite



UTE 1012

Crown daisy



## Physical Data

Item	Standard Test Method	Specification	Conductive Tile	Static Dissipative Tile
Electrical / Electrostatic Properties				
Electrical Resistance - Surface to Surface	ESD S 7.1 (100V) ASTM F 150 (100V)	C: 2.5 X 10 <sup>4</sup> ~10 <sup>6</sup> Ω	2.5 X 10 <sup>4</sup> ~10 <sup>6</sup>	10 <sup>6</sup> ~ 10 <sup>8</sup>
- Surface to Ground	DIN 519653 (500V)	C: 2.5 X 10 <sup>4</sup> ~10 <sup>6</sup> SD: 10 <sup>6</sup> ~10 <sup>9</sup> Ω	2.5 X 10 <sup>4</sup> ~10 <sup>6</sup>	
- Static Generation	AATCC - 134		0.1 KV	
Static Decay	Federal Test Method 101B Method 4046	<0.5 sec	0.01 sec	0.01 sec
Other Properties				
CEN Classification	DIN EN 685		Class 34 + 43	
Composition of Material	ASTM F 1700, Certificate of compliance		Homogeneous	
Thickness	ASTM F 386, DIN EN 428	as specified ±0.13mm	Meets Standard	
Nominal Sizes	ASTM F 536, DIN EN 427	≤±0.4mm / 304.8mm	Meets Standard	
Squareness	ASTM F 2055	maximum 0.25mm	Meets Standard	
Residual Indentation	ASTM F 1914 DIN EN 433	average less than 8% max. single reading 10%	<8%	
Flexibility	ASTM F 137	No crack or break	No crack or break	
Dimensional Stability	ASTM Fed. Std. No 501a, Method 6211, DIN EN 434	<0.51mm / 304.8mm	Meets Standard	
Resistance to Chemicals	ASTM F 925 DIN EN 423	No more than a slight change in surface dulling, surface attack, or staining	No more than a slight change in surface dulling, surface attack, or staining	
Resistance to Heat	ASTM F 1514	Δ E<8 ave., max	<Δ E=1.0	
Resistance to Light	ASTM F 1515	Δ E<8 ave., max	<Δ E=6.0	
Static Load Limit	Modified ASTM F 970-93	-	<0.127mm / 2500psi	
Smoke Density	ASTM E 662	<450	<450	
Flame Spread	ASTM E 84, NFPA 225	<75	<75	
CVCM	ASTM E 595		1.88%	
Thermal Conductivity	DIN 52612		0.309 W/m.k	
Fire Resistance	DIN 4102		B1	
	ONORM B 3810		B1 Q1	
Critical Radiant Flux	ASTM E 648, NFPA 253		Class 1 (>0.45w/cm²)	
Abrasion Resistance	ASTM D 1044, CS-10-F Wheel, 500Gm Weight		Cycle	% Gauge Loss
			2,500	0.22
			5,000	0.44
			7,500	0.65
			10,000	0.86
Resistance to Wear	DIN EN 660-1		Group M	
Effect of Castor Chair	DIN EN 425		No damage	
Color Fastness	ISO 105 B02		At least 6	
Impact Sound absorption	Vli, ISO 140, ISO 717		approx 2dB	
Standard for Health Care Facilities	NFPA 99		Confirms to the requirement of NFPA 99 in effect the time of installation	
Fulfills product requirements	EN 649		Yes	
Underwriters Laboratories	UL 779		Meets UL Standard	
Burning Characteristic	EN ISO 9239-1 EN 13501-1		Bfl-S1	
Warranty				
Free from defects in materials			Five Years	
Conductivity			Lifetime	

## Consistent and Stable Conductivity Superior Stain-Resistance



Conductive Resistivity -  $2.5 \times 10^4$  to  $1 \times 10^6$  ohms  
Dissipative Resistivity -  $1 \times 10^6$  to  $1 \times 10^9$  ohms

LG Static Pulse ESD Control Vinyl Tile is the ultimate solution to today's technological environments where static electricity is more than the annoying nuisance of a simple shock.

Electrostatic discharges can damage or degrade sensitive electronic components, ignite flammable gases and cause equipment malfunction.

## Characteristic

1. Superior static control terminates static generation protecting sensitive equipment.
2. Lifetime warranty against static generation.
3. Perfect for access panel floors as well as direct installations.

## Application

Clean Rooms, Access Flooring, Health Care, Explosives Manufacturing Plants, Electronics Manufacturing Assembly, Test Areas, Inspection Process, Computer and Electronic Equipment, Telecommunications Environments.

## Conductive & Static-Dissipative Tile

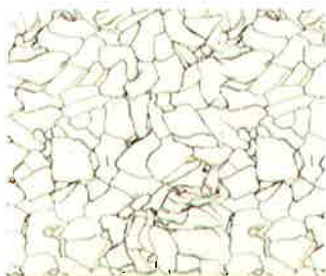
Size	Thickness
600mm x 600mm	2.0mm, 3.0mm
610mm x 610mm	2.0mm, 3.0mm
900mm x 900mm	3.0mm



C : Conductive  
SD: Static Dissipative

## STATIC CONTROL

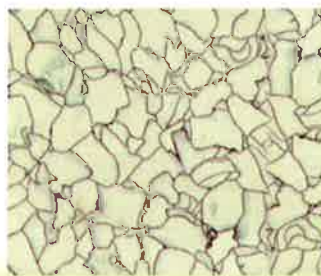
Specialized vinyl floor with electrostatic discharge properties



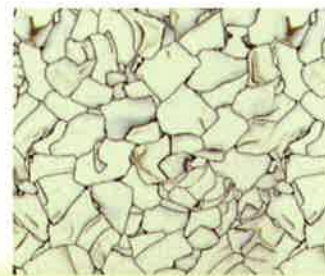
C6101/SD6101



C6001/SD6001



C6002/SD6002



C6003/SD6003



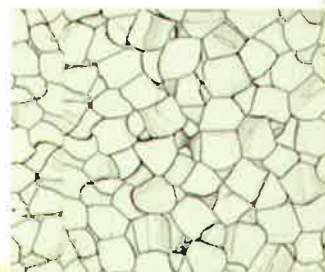
C6111/SD6111



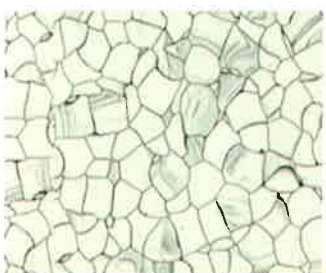
C6005/SD6005



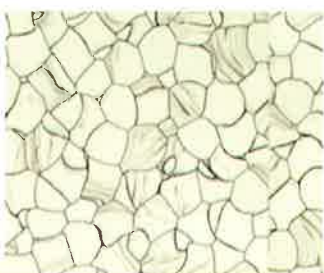
C6061/SD6061



C6201/SD6201



C6202/SD6202



C6203/SD6203



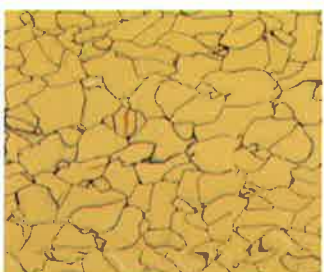
C6200/SD6200



C6091/SD6091



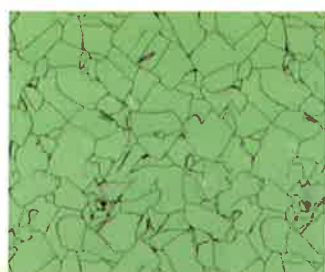
C6141/SD6141



C6071/SD6071



C6131/SD6131



C6081/SD6081

## PREMIUM



C9001/SD9001



C9002/SD9002



C9003/SD9003





## Technical Specification

	Deco Tile - LASER CRACK	Deco Tile - WOOD GRAIN
Size	500mm x 500mm	200mm x 1000mm
Thickness	2.0mm special order 3.0mm	2.0mm special order 3.0mm
Packing	13 pcs per box (3.25m <sup>2</sup> )	16 pcs per box (3.20m <sup>2</sup> )
Flammability		
ASTM E-84	< 75	< 75
ASTM E-662	< 450	< 450
Slip Resistance	Dry Condition : Excellent	Dry Condition : Excellent
Resistance Tests		
95% Ethyl Alcohol	No change	No change
2% NaOH	No change	No change
5% Acetic Acid	No change	No change
5% HCl Acid	No change	No change
Gasoline	No change	No change
Cottonseed Oil	No change	No change
Bean Oi	No change	No change
Ilubricating Oil	No change	No change
Cement Paste	No change	No change

## Applications

Retail Store, House Condo, Public Building, School Education, Office Building, Indoor Sport, Hotel Resort

## Installation

Deco Tile Laser Crack and Wood Grain vinyl planks can be installed over new or existing concrete, plywood, ceramic or terrazzo, or other resilient floor coverings. All these subfloors must be smooth, dry and free from dust, foreign matter, paint, oil and grease. Any cracks, breaks or other irregularities must be levelled with concrete or a latex type underlayment prior to installation.

## Maintenance

Upon installation, wipe thoroughly with a damp mop and apply acrylic polymer polish within 2 hours to protect the surface. Avoid washing the floor with water directly after installation. For daily maintenance, wipe off dust and dirt with a damp mop. When necessary, clean the vinyl floor with general purpose liquid detergent and allow floor to dry before applying one or two coats of acrylic polymer polish.

Deco tiles satisfies both beauty & function at the same time

## WOOD GRAIN



RW 21



RW 25



RW 2114



RW13



RW 5655



RW 9195

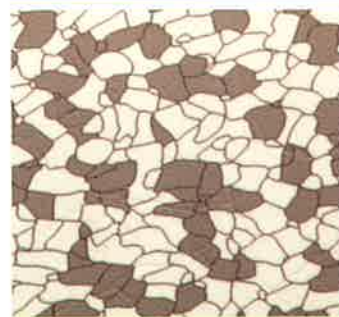


RW 15



RW 3132

## LASER CRACK



RS 231



RS 232



# Method Of Statement For Vinyl Flooring

## Preparation of Subfloor

The condition of the subfloor not only has an important bearing on the appearance of the finished installation, but can dramatically affect the life and serviceability of the floor covering. A floor should be considered as a series of inter-related layers. The lower layer of subfloor is normally the structural base designed to withstand all predictable static and dynamic loads. The upper layer is the floor covering with intermediate layers consisting of screeds and smoothing underlayment.

Therefore, care must be taken to ensure the surface of concrete is free of parting of curing compound, oil, grease, paint, and hollow sounds; which may prevent the adhesive from forming a secure bond. The surface of the concrete must be smooth and level, dry, hard, rigid, completely free of crack, holes and protrusions. If the surface is not satisfactory it should be repaired and leveled with a cementitious underlay by main / building contractor.

### Concrete Subfloor

Concrete subfloors must be cured and completely dry, the surface must be steel trowelled to a smooth dense surface free of trowel marks and irregularities.

Concrete slabs in contact with fill, hardcore or the ground must have a damp-proof membrane to prevent entry of moisture. Waterproofing additive and curing compound do not replace the damp-proof membrane.

### Eliminating Construction Moisture

Prior to laying any vinyl flooring, it is essential that all free water which can affect adhesion is allowed to evaporate from the base. The rate of drying is influenced by many factors including design of the base, ambient temperature and humidity, concrete quality, amount of construction water used, surface finish attained, use of special concrete additives and especially the thickness of the base. Whereby of this variability, it is difficult to give exact drying-out times but as a guide, new slabs should dry for at least one month per 25mm thickness and an increasing time for each millimeter above this thickness.

### Unbounded Screed

An unbounded screed only needs to dry-out above the DPM. This means that a screed 25mm thick will be sufficiently dry to take a floor covering after 1 month, even though the total construction may be 150mm – 200mm thick.

### Expansion Joints

Expansion joints are incorporated into buildings to permit movement without cracking. It is important that these joints extend through the floor covering. **Never lay vinyl flooring over expansion joints.**

Proprietary expansions joint covers are available which blend with the floor covering and disguise the joint. Some are made of vinyl which incorporates a flexible portion. Other types are a combination of aluminium and PVC which again contains a flexible section.

**Note:** Filling the expansion joints with sealant which is not specifically designed for expansion joints filling of floor smoothing underlayment will lead to floor failure and is **not recommended**.

Main contractor to ensure the following before handing over section by section to approved installer for commencement of installation.

- All equipments and movable items are cleared from area.
- All cement drooping and protrusion is removed.
- All wet works are completed.
- All cracks and holes are rectified.
- Floors are smooth, even and flat as in accordance to the Architect's specification and requirement.

For preparation of the floor surface the following steps are to be carried out :-

- Sweeping or vacuum of floor surface.
- Sanding of floor surface with Sorma Sanding Machine.
- Patching of small and minor holes with latex additive.
- Ensure no debris (sand particles) are present prior to installation.

## Moisture Testing

LG Vinyl flooring or resilient flooring should be laid on subfloors which do not suffer rising damp or hydrostatic pressure, and where the moisture level does not exceed 81% RH or below 5% when tested using TRAMEX Concrete Encounter Moisture Meter or below 14% of ROMUS Protimeter Moisture Indicator testers.

When tested subfloor is humid or damp concrete, ARDEX WPM300 Moisture and Vapour Barrier of Negative System at Ground Floor are recommended. It is a hydrostatic pressure resistant waterproofing membrane to prevent moisture or vapour or dampness penetration through to the interior floor and over freshly laid hardened (green) concrete, prior to the application of vinyl flooring.

Ardex WPM 300 is not trafficable and must be covered with floor leveling underlayment prior to foot traffic introduction.

### Application of Moisture Barrier Coating

Where a floor leveling underlayment is to be used over Ardex WPM 300, allow minimum 2 coats or 3 coats of WPM300 to dry for a minimum of 24 hours at 25°C or 50% RH. Prime with a non porous primer such as Ardex Ardion 82 primer and allow to dry for 2-3 hours before applying the floor leveling compound / underlayment.

2 coats of Ardex WPM300 to be used, 1<sup>st</sup> and 2<sup>nd</sup> coats are neat coat without added clean water. Apply one layer in horizontal and allow 6 hour curing time then apply 2<sup>nd</sup> layer in vertical and allow 24 hours curing time, follow by apply Ardex Ardion 82 primer. OR

3 coats of WPM300 to be used, 1<sup>st</sup> coating maximum 10% clean water may be added to the mixed material as a primer coat. Ensure recoat times are adhered to between application at 25°C and 50% RH as below:

- i) Wet the floor with mop but without standing water. Apply 1st coat WPM300 as a primer on substrate, after 6 hours;
- ii) Apply 2<sup>nd</sup> neat coat of WPM300 vapour barrier, after 6-8 hours;
- iii) Apply 3<sup>rd</sup> neat coat of WPM300 vapour barrier, after 24 hours;
- iv) Apply Ardion 82 Primer, after 2-3 hours: installed floor leveling compound

**NOTE: 2-layer of WPM300 (5 years warranty), 3-layer WPM300 (10 years warranty)**

### Application of Floor Leveling Compound / Underlayment

1. Pour one bag of 25kg of self levelling compound into 6 liter of water and mix mechanically (500 rpm) until a paste is obtained which is homogeneous, smooth and without lumps.
2. Do not add water during the application or mixing.
3. Pour the ready mixed self levelling compound on the floor portion.
4. Adjust the desired thickness (eg 3mm thick) by moving backward and forward using a clean toothed trowel.
5. Joints in the self levelling compound shall be provided exactly above the joints in the floors.
6. One bag of 25kg of levelling compound can cover approximately 5.5m<sup>2</sup> at 3mm thickness.
7. If second layer of self levelling compound to be added, ensure that the first level is dry and ready to be walked on.
8. The self smoothing time is approximately 15 to 20 minutes.
9. Maximum time after mixing before laying is approximately 20 to 30 minutes.
10. The waiting time after it is laid before walking on is 6 to 12 hours.
11. The waiting time before abrasives polishing, if necessary, is 24 to 48 hours.
12. Avoid draft and direct exposure to the sun during drying.
13. Once the bag is opened, it must be used immediately. Do not expose for more than 1 hour.
14. Curing time prior to laying of vinyl flooring shall be 48 hours later.



# Method Of Statement For Vinyl Flooring

## VINYL SHEET INSTALLATION

### Installation of Vinyl Sheet and Welding Joints

1. Cut the required length of the roll, including enough to run up the wall.
2. Push the length of the sheet as close to the starting wall as possible, letting the extra length run up the wall at each end.
3. Set the long scribe to a minimum of 10mm more than the greatest distance between the wall and the material. Scribe the shape of the wall on the material. Then cut the material along the scribed line using a hooked blade knife.
4. Now push the sheet tightly against the wall. Draw a pencil line on the subfloor lengthwise along the other long side and mark a cross line on the subfloor and the end of the sheet.
5. Next draw back the sheet along the first pencil line until the end of the sheet lies flat on the subfloor.
6. The end of the sheet is now scribed and cut off. After this entire procedure has been repeated at the other end, the sheet should fit perfectly and can be laid after the floor has been swept again.
7. When installing three sheets of more, only the end of the intermediate sheet is cut to the size. To cut the seams, the sheets are placed overlapping each other by 15-20mm.
8. Fold back all overlapped sheets as one, half way back. Do not back roll vinyl floorings it will cause compression. When the sheet is then laid into the adhesive the compression. Spread contact adhesive with a proper notched trowel, giving 4-5 sq m per liter on absorbent subfloor.
9. After the material has been laid into the adhesive the seams can be cut to size. Groove the seam using machine groove or hand groove.
10. Use professional welding gun and maintain the temperature at 350-400°C. The hot air produced by the device melts both the floor covering and the PVC welding rod.
11. Insert the welding rod through the welding nozzle and move the hot air gun backward and should be parallel to the flooring and placed directly over the groove.
12. Determine the correct welding speed by ensuring that the welding rod melts into the groove, and then trim the excess material with crescent knife and trim plate.

### Installation of Bend-up Skirting

1. Draw the height of 100 mm the coving using a pencil and ruler. Apply Alseal contact adhesive on cove former and place at the edge of surround wall and capping strip at the 100mm high of the surrounding wall.
2. After the sheet have been cut, fold the sheet to form an even radius between the floor and the wall. Heat the flooring and press it firmly against the wall. Better adhesion is achieved if hot air is blown between the flooring and the wall.
3. Internal corner : Shape the surplus material as illustrated and make a cut in the middle of the surplus, beginning about 5mm from the floor.
4. Heat weld the seam using an angled tip and welding roller. Trim the rod when it was cool. Use a crescent knife.
5. External corner : Fold the flooring against the corner and cut it at an angle of approximately 45° so that the size of material on each side of the corner is equal.
6. Cut a triangular make-up piece. Make a groove half the thickness of the flooring in the backing using a hand groove.
7. Warm the make-up piece slightly. Place it on the corner and trim it to fit the underlying edge. Groove the seams.
8. Heat weld the seam in the same way as for the inner corners and trim after cooling.

### Finished Flooring Protection (Care of Main or Building Contractor)

1. When the vinyl sheet is completed, the surface of the floor needs to be protected against sketches, soil, damaged, etc.
2. Totally protect the finished floor with plastic sheet covering.
3. Make sure there is no residue on top of the vinyl flooring surface.
4. In case the door is ready please make sure is locked and entry with permission.
5. It is recommended to protect the finished flooring with 1.2m x 2.4m x 10mm thick plywood or 1.2m x 2.4m x 10mm thick aluminium plate when moving heavy machinery or equipment to prevent the floor leveling compound from cracking and vinyl sheet flooring get twisted by forklift or trolley due to excessive loading and pressure from the wheels of moving truck.

### Line Marking For Badminton Court

1. Marking the Badminton court with appropriate game line of the dimension for wide 6.10m and length of 13.40m and width of line is 40mm then marking with masking tape for the surrounding court for both side.
2. Then apply 2 parts of "JOTUN" polyurethane paint white color on the surface of LG REXCOURT / MULTI Indoor sport synthetic vinyl flooring.
3. After the paint has properly dry, removed all the masking tape.

**Note:** Others game e.g : Futsal, Netball, Sepak Takraw, Basketball, Volleyball same method as above.

## VINYL TILE INSTALLATION

### Apply Alseal Contact Adhesive

1. Before applying, the concrete floor and ground must be checked that there is no risk for additional moisture content which must not exceed 5.0%.
2. The surface of the floor must be dry, clean, compact, even, dust free and free from oil spill.
3. One drum of Alseal contact adhesive is 18kg.
4. Stir well before the adhesive.
5. Pour the Alseal contact adhesive on the dry concrete floor.
6. Used toothed trowel to spread it evenly to wet the whole sub floor.
7. Apply evenly on bottom of vinyl tile then wait for open time about 10 minutes then lay down to the sub floor.
8. The coverage of Alseal contact adhesive is about 3 to 5m<sup>2</sup> / litre.
9. When working with Alseal contact adhesive, cleanliness must be observed. Always work carefully and systematically in order to avoid unnecessary spillage.
10. In case of skin contact, wash with soap and water.
11. Clean application tools with water before the dispersion has dried. Dried dispersion is soluble in ethanol.

### Laying Vinyl Tile

1. Tiles dimension is 300mm length x 300mm width x 2mm thick. (Gallant – 450mm x 450mm x 2mm thick)
2. Apply Alseal Contact Adhesive to a few square meters of subfloor in one quarter.
3. Apply Alseal Contact Adhesive to bottom of vinyl tile in one quarter and wait for 10 minutes then lay down to subfloor.
4. Each tile is placed systematically in one direction forward.
5. Apply an equal force to spread the tile flatly on to the floor.
6. All the tile must be butt joined all round leaving no gap at the parameter edges.
7. Laying vinyl tile require skill and experience workmanship.

### Cleaning and Waxing Vinyl Tile

1. Use JOHNSON "Freedom" Cleaner for effective cleaning.
2. Cleaning with a machine and 3M pad to strip-off pre-finish wax from factory.
3. Check the flooring surface free of dirt and particles.
4. For glossy surface, apply 2 coats of Thermal Plastic Emulsion for glossy look.

## ESD TILE INSTALLATION

### Apply F.Ball Styccobond F57 Acrylic Conductive Adhesive

1. The surface of the floor must be dry, clean, solid, even, dust free and free from oil spill.
2. To obtain good adhesion, observe the open time (about 20min.) and finish the installation within curing time (about an hour).
3. One drum of styccobond F57 conductive adhesive is 15litre.
4. Stir well before the adhesive.
5. Pour the styccobond F57 conductive adhesive on the dry sub floor.
6. Used toothed trowel to spread it evenly to wet the whole sub floor.
7. Airing method of applying this conductive adhesive is not recommended.
8. The coverage of conductive adhesive is about 3 to 5m<sup>2</sup> / litre.
9. When working with styccobond F57 conductive adhesive, cleanliness must be observed. Always work carefully and systematically in order to avoid unnecessary spillage.
10. In case of skin contact, wash with soap and water.
11. Clean application tools with water before the dispersion has dried. Dried dispersion is soluble in ethanol.



# Method Of Statement For Vinyl Flooring

## Setting Copper Strip

1. All conductive tile have to be placed on copper strip for every 20 feet apart by crossing vertical and horizontal method.
2. Each coil of copper strip is 0.08mm thick x 10mm (w) x 50m-300m (L).
3. The copper strip are to be cross-connected with an other copper strip running in the approximately 8" inch distance from the wall side.
4. The copper strip must not be placed under the space between tiles.
5. The gluing of the copper strip is done by using conductive adhesive.
6. At the ends of the copper strip there are perpendicularly soldered copper strips to give electrical contact (ESD Electrical Earth point).
7. One of these should go to earth possibly via a variable resistor. This must only be done by a person qualified for this job or an electrician
8. Make sure that neither the copper strip nor the adhesive layer shall come into contact with metal ducts or objects as they have influence on the conductive properties of the floor construction.
9. The ESD Electrical Earth Point of the copper strip to the grounded at least on every 200 sq meter.

## Laying LG Static Pulse ESD Control Vinyl Tile (Conductive/Dissipative Tile)

1. LG Static Pulse ESD Control Vinyl Tile of sizes 610mm x 610mm x 2mm thick.
2. Each piece of tile weight of 1.4 kg. One carton is 15 pcs. Therefore handling of tile must be due care.
3. Apply an equal force to spread the tile flatly on to the floor.
4. All the tile must be butt joined all round leaving no gap at the parameter edges.
5. Use an automatic groove cutting machine to trim the tile butt joints.
6. Weld the groove with LG ESD Control Tile, Conductive / Dissipative tile matching colour welding rod thermal welded by using a welding gun.
7. Welding rod size : 4mm (diameter) x 100m or 300m length.
8. Welding temperature control setting according to about 23 deg °C.
9. Trim excess welding rod using proper trimming tool.
10. LG Static Pulse, Conductive / Dissipative tile at wall parameter, where cove former is required, lay the strip on the bottom of the floor is then laid upright leaving the required length of cove former.
11. The free end of the cove-up LG ESD Control Tile is then cap with PVC capping strip.
12. Capping strip is 25mm width x 25 meter length.

## Provide Transversal Electrical Test At Various Test

1. Conductivity Test by using MONOSYS DIGITAL SURFACE RESISTIVITY METER witness by Project Consultant and owner.
2. Prepare a report to owner or contractor for their references.

## Finished Flooring Protection to be provide by Main Contractor (if applicable)

1. When the PVC flooring is completed, the surface of the floor needs to be protected against sketches, soil, damaged, etc.
2. Totally protect the finished floor with plastic sheet covering.
3. After the plastic sheet is removed, the LG ESD Control Tile should be cleaned with Alkaline Cleanser detergent using a damp mop.
4. Make sure there is no residue on top of the LG ESD Control Tile flooring surface.
5. It is recommended to protected the finished flooring with 1.2m x 2.4m x 19mm thick plywood or 1.2m x 2.4m x 10mm thick aluminium plate when moving heavy machinery or equipment to prevent damage the ESD Tile and the floor levelling compound from cracking due to excessive loading and pressure from the wheels of moving truck.

**Important:** Standard Floor Waxes and Static Dissipative Floor Finish should not be used they may leave an insulating film on the floor and may affect the performance of LG ESD Static Control Tile, Static Conductive or Dissipative Tile.

## MAINTENANCE

LG Hausys manufactured with a specially invented UV- cured PUR-Easy Clean UV- that provides innovative maintenance advantages and options. This PUR doesn't require waxing and polish because LG Hausys' unique surface treatment technique prevents contaminants from penetration into the wear layer. To ensure these products retain it's original appearance for as long as possible, LG Hausys recommends :

- \* protecting new flooring against damage during construction with plain undyed kraft paper or wood panels;
- \* walk-off mats be installed at entry points to the building to limit the amount of wet and dry soiling. If maintained correctly, these mats should limit the transfer of grit and grime making the daily cleaning and maintenance even easier.

### Initial Maintenance (Immediately after Installation)

1. Ensure all adhesive residue is removed from the surface of the flooring. Mineral spirits is approved for removing dried adhesive.
  2. Sweep or vacuum the floor to remove all surface soil, dirt, sand and grit.
  3. Damp mop only for the first 48 hours (while adhesive dries) using only clean water and a dampened clean mop head.
  4. Depending on the level of site soiling after the installation is complete, it may be necessary to scrub the floor clean prior to adopting the daily maintenance regime. Please choose the suitable option below.
    - a) Mop with diluted neutral cleaner/detergent, rinse with clean water and allow it to dry.
    - b) Scrub the floor with diluted neutral detergent using a standard-speed rotary scrubber (150- 250 rpm) or a scrubber dryer (combination machine) fitted with a red pad. Pick up solution with a wet vac. Rinse with clean water and allow to dry. Finally buff with a rotary machine capable of 200 - 1000 rpm, fitted with a beige pad.
- **Do not apply polish or wax on Easy Clean UV treated surface.**

### Daily / Weekly / As Needed / Maintenance

To maintain your new floor's original appearance, it is recommended to follow a routine maintenance program.

#### Option 1 Non Mechanical Method

1. Sweep, dust mop or vacuum the floor to remove all dust, dirt and grit.
2. Mop the floor with a clean water dampened mop head.
3. For surface grime not removed by water-cleaning, hand spray tough spots with a neutral cleaner/detergent, scrub as needed, and rinse with clean water and allow to dry.

#### Option 2 Mechanical Method

1. Sweep, dust mop or vacuum the floor to remove all dust, dirt and grit.
2. Scrub with diluted neutral cleaner/detergent using a standard-speed (150 - 250 rpm) rotary machine fitted with a red pad.
3. Pick up solution with a wet vac.
4. Rinse with clean water and allow to dry.

### Periodic Maintenance

1. Mop on a diluted neutral cleaner/detergent solution, wait about 5 to 15 minutes.
2. Scrub the floor using a 150-250 rpm scrubber equipped with red pad or similar brush.
3. Pick up dirty solution with a wet vac not allowing it to dry on the floor.
4. Rinse the cleaned floor with clean water, change rinse water as often as needed, until the water remains clear.
5. After final rinsing, allow floor to dry completely.
6. Clean floor can now be buffed with a rotary machine capable of 200 - 1000 rpm, fitted with a beige pad or similar brush.

**Products with Easy Clean UV treatment don't require waxing and polish.**

### Flooring Polish

**Products with Easy Clean UV don't require waxing and polish, however, if waxing and polish is desired for extra protection in heavy traffic areas, follow these recommendations.**

**The flooring polish on this PUR requires stripping process in advance. Please follow the guide below.**

1. Follow (1) - (6) in periodical maintenance guide, but use Stripper instead of detergent solution in (1), and choose the Brown pad or equivalent scrub brush instead of Red pad for stripping process in (2). (Stripper with PH 12-14 diluted 1:3-1:5 with water is recommendable, for the detailed information, please contact to the local stripper manufacturers.)
2. Apply the floor polish as recommended by the polish manufacturer.
3. Allow polish to completely dry between coats (minimum 30 minutes dry time).
4. Apply additional coats, 3 - 4 of a high quality acrylic floor polish, depending on level of traffic.
5. Buff with a rotary machine capable of 200 - 1,000 rpm, fitted with a white or beige pad or similar brush.

### Precautions

1. When conducting the routine cleaning work, do not completely remove Easy Clean UV(PUR), but for polishing on it, Remove the existing PUR.
2. Apply only the recommended amount of neutral cleaner/detergent and polish.





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