Environmental Product Declaration

In accordance with ISO 14025:2006 and EN 15804:2012+A2:2019/AC:2021 for:

Sealed Air® brand Ethafoam®2222

from

Programme:	**The International EPD® System,**
Programme operator:	EPD International AB
EPD registration number:	S-P-12853
Publication date:	2024 03 08
Valid until:	2029 03 07
Revision	Rev. 0

EPD of multiple products thickness (5 mm and 10 mm), based on the market representative product (5mm).
EPDs within the same product category but from different programmes may not be comparable.
An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com.

General information

Programme: **The International EPD® System**
EPD International AB
Address: Box 210 60
SE-100 31 Stockholm
Sweden
Website: www.environdec.com
E-mail: info@environdec.com

Accountabilities for PCR, LCA and independent, third-party verification
Product Category Rules (PCR)
CEN standard EN 15804 serves as the Core Product Category Rules (PCR)
CPC code: *3691 - Floor coverings of plastics, in rolls or in the form of tiles; wall or ceiling coverings of plastics*
PCR review was conducted by: Martin Erlandsson, IVL Swedish Environmental Research Institute, martin.erlandsson@ivl.se

Life Cycle Assessment (LCA)

LCA accountability: SEE, laura.passerini@sealedair.com

Third-party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006 via:

X EPD verification by EPD Process Certification*

Third-party verification DNV Business Assurance Italia S.r.l. is an approved certification body accountable for third-party verification
Third-party verifier is accredited by: ACCREDIA (Registration number 008H rev.01)

*For EPD Process Certification, an accredited certification body certifies and reviews the management process and verifies EPDs published on a regular basis. For details about third-party verification procedure of the EPDs, see GPI.

Procedure for follow-up of data during EPD validity involves third-party verifier:
Yes X No

The EPD owner has the sole ownership, liability, and responsibility for the EPD.
EPDs within the same product category but registered in different EPD programmes, or not compliant with EN 15804, may not be comparable. For two EPDs to be comparable, they must be based on the same PCR (including the same version number) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. For further information about comparability, see EN 15804 and ISO 14025

Company information

Owner of the EPD:

SEE
Sealed Air Corporation
2415 Cascade Pointe Boulevard
Charlotte, NC 28208

Contact for the EPD:
laura.passerini@sealedair.com

Name and location of production site:

Abrera SEE plant:

Calle Hostal del Pi Nº 16
Pol. Industrial Barcelones,
Suite 2062, 08630 Abrera
Barcelona (Spain)

Bellusco SEE plant:

Sealed Air srl,
via Europa 15, 20882
Bellusco (MB), Italy

Kettering SEE plant:

30 Telford Way, Kettering,
Northants NN16 8TD
(United Kingdom)

Management system-related certification:

All EU SEE plants are ISO9001 certified

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

Company information

Headquartered in Charlotte, North Carolina, SEE **is a global company that designs and produces digital, automated and packaging solutions**. The company partners with leading brands to address their critical challenges and protect essential resources including fresh food, health-care products, liquids, and other valuable goods as they are transported and marketed to consumers worldwide.

Capitalizing on its industry-leading expertise in technology, science, and engineering, SEE is transforming the industries it serves with solutions that enable e-commerce and digital connectivity across the value chain and promote a safer, more resilient, and less wasteful global food supply chain.

https://www.sealedair.com/company/our-company/who-we-are

Company information

SEE's Net Positive approach is about innovating to deliver new market-centric solutions that are creating environmental, social, and economic value that largely exceed their investment. We are achieving Net Positive outcomes through **our four strategic sustainability pillars** focused on

1. solving customer challenges,
2. mitigating climate change,
3. accelerating a circular economy,
4. and partnering to transform through innovations.

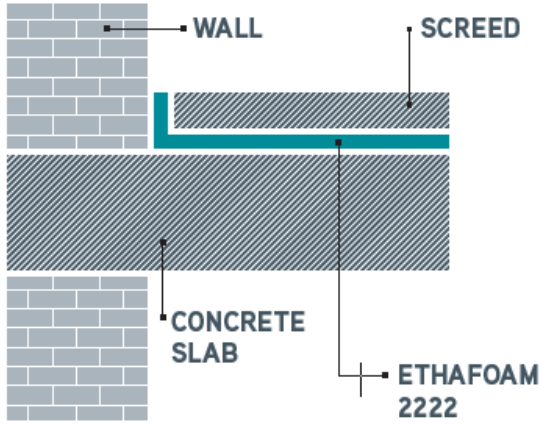
Our report shows our top priorities and progress including our company's:

- Zero-harm strategy for the well-being of our people, facilities, and customers
- Leadership in Diversity, Equity, and Inclusion
- Innovations and investments for sustainable solutions
- Advancement in our 2025 Sustainability and Materials Pledge
- Accelerated progress toward our Net Zero by 2040 commitment

https://www.sealedair.com/company/corporate-responsibility-esg

Product information

- **PRODUCT NAME: Sealed Air® Brand Ethafoam®2222**
- **UN CPC CODE:** *3691 - Floor coverings of plastics, in rolls or in the form of tiles; wall or ceiling coverings of plastics*
- **GEOGRAPHICAL SCOPE:** Europe
- **PRODUCT DESCRIPTION:** Sealed Air® brand Ethafoam®2222 is a flooring underlayment for floor systems
- **APPLICATIONS:** Ethafoam® 2222 is a closed-cell polyethylene foam material designed for use as a resilient acoustic insulation layer in concrete floor structures.
- **DECLARED UNIT:**
  1 m² of Sealed Air® brand Ethafoam®2222, 5mm having the weight of 165 grams.



The study was conducted on the market representative product of 5mm.
The results for the 10mm can be calculated using the conversion factors reported in the section “Additional Environmental information”

Product	Grammage [g/m²]
Sealed Air® brand Ethafoam® 2222	**165**

The mass is indicated in the table as grammage (g/m²)

The results in this document represent a weighted average for the production of Ethafoam®2222 in SEE plant Bellusco (IT), Kettering (UK), Abrera (ES)

*Sealed Air is a registered trademark of SEE -Sealed Air Corporation

Technical Data Sheet

PHYSICAL PROPERTIES	TEST METHOD	UNITS	VALUE
Thickness	EN 823	mm	5 and 10
Compressive strength 25% 4th Compression 50% 4th Compression	ISO 3386	kPa	> 20 > 70
Short term compressibility	EN 12431	mm	< 1
Density	ISO 845 / EN 1602	Kg/m^3	33
Impact sound insulation	EN ISO 140-7 EN ISO 10140-3:2010	L'nT,w (dB) ΔL_w(dB)	52 20 for 5mm , 23 for 10mm
Airborne sound insulation	EN ISO 140-4	DnT,w + Ctr (dB)	48
Thermal conductivity	ISO8301	W/mK	0.04
Dynamic stiffness	EN29052-1 / ISO9052-1	MN/m^3	> 50
Ageing resistance	SP0414 / ISO1798	years	50
Water absorption (After 28 days)	EN 12087	volume %	< 2

Ethafoam® 2222

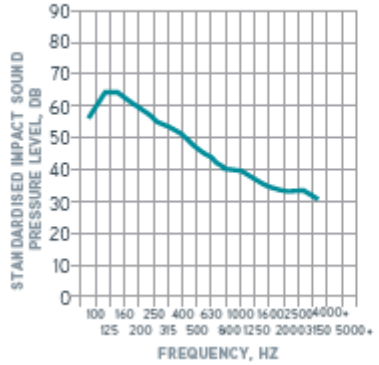
PRODUCT SPECIFICATION SHEET
ACOUSTIC INSULATION FOAM

IMPACT SOUND TEST RESULTS

TEST METHOD	UNITS	VALUE
En ISO 140-7: 1998	L'nT,w (dB)	52

* Criteria to pass test is less than 60 dB

IMPACT SOUND INSULATION



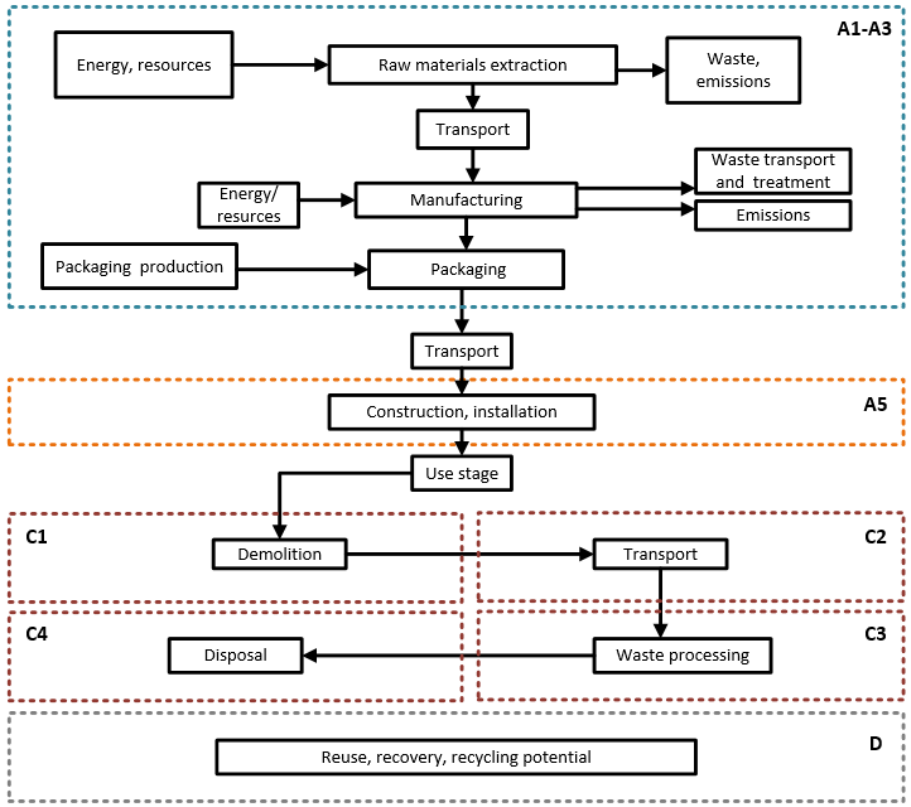
SRL Sound Research Laboratories Limited

Sound Research
Laboratories Limited
holbrook House,
Little Waldingfield Sudbury,
Suffold CO10 OTH Test Report No.
C/07/5I/3922/R03

LCA information

DECLARED UNIT: **1 m² of Sealed Air® brand Ethafoam® 2222, 5mm having the weight of 165 grams.**
SYSTEM BOUNDARIES: cradle to gate with options (modules A1-A3, A5, C1-C4 and module D)
REFERENCE SERVICE LIFE: the RSL corresponds to the life of the buildings where the product is installed, and assumed to be 50 years.
TIME REPRESENTATIVENESS: 2022
DATABASE(S) AND LCA SOFTWARE USED: SimaPro v9.5 software and Ecoinvent v3.9.1 database

SYSTEM DIAGRAM:



PRIMARY DATA: all the primary data were collected for the production year 2022 in the manufacturing site of Aneby (Sweden) and refer the technology used in that year.
LCI data shall according to EN 15804 include a minimum of 95% of total inflows (mass and energy) per module (e.g. A1-A3, A5, C1-C4 and module D).

PROXY DATA: proxy data, do not exceed 10% of the overall environmental impact, as per PCR of reference.

ENERGY MIX USED FOR CORE PHASE: Renewable mix certified by Suppliers. A weighted average of the three manufacturing plants is reported. GWP-GHG of the electricity mix: 0.1018 $KgCO_2eq/kWh$

CUT-OFF: Elementary flows to and from the product system contributing to a minimum of 99% of the declared environmental impacts are included (no processes within the boundaries are excluded).

END OF LIFE TREATMENTS: disposal scenario for construction materials, corresponding to 100% landfill. The result of phase D is zero, because no end-of-life benefits comes from recycling, recovery and/or reuse.

ALLOCATIONS PROCEDURE: mass allocation used for all input/output processes linked to SEE activities. Economic allocation for principal products flows coming from other products systems.

DESCRIPTION OF SYSTEM BOUNDARIES: cradle to gate with options (modules A1-A3, A5, C1-C4 and module D)

A1:

- Extraction and processing of raw materials;
- Reuse of products or materials from a previous product system,
- Processing of secondary materials
- Generation of electricity, steam and heat from primary energy resources,
- Transport of resources to refinement;
- Refinement of resources and polymers production;
- Energy recovery and other recovery processes from secondary fuels

A2:

- Transportation up to the factory gate and internal transport

A3:

- Production of ancillary materials or pre-products;
- All the manufacturing processes necessary to generate the product, including
  - extrusion, printing, perforation, winding
  - scrap and waste handling
- Electricity used in manufacturing processes
- Warehousing, storage and handling of materials, storage and packaging of final product;
- Maintenance of equipment;
- Packaging manufacturing
- Processing up to the end-of-waste state or disposal of final residues including any packaging not leaving the factory gate with the product.

A5:

- Construction, installation (packaging disposal)

C1:

- Deconstruction, including dismantling or demolition, of the product from the building, including initial on-site sorting of the materials;

C2:

- Transportation of waste to final disposal

C3:

- Waste processing for reuse, recovery and/or recycling

C4:

- Disposal

D:

- Benefits and loads beyond the product system boundary

The technical system does not include:

- Manufacturing of production equipment, buildings, and other capital goods;
- Business travel of personnel;
- Travel to and from work by personnel.

MODULES DECLARED, GEOGRAPHICAL SCOPE, SHARE OF SPECIFIC DATA (IN GWP-GHG RESULTS) AND DATA VARIATION (IN GWP-GHG RESULTS):

	Product stage			Construction process stage		Use stage							End of life stage				Resource recovery stage
	Raw material supply	Transport	Manufacturing	Transport	Construction installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Modules declared	X	X	X	ND	X	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	SE	-	EU27	-	-	-	-	-	-	-	EU27	EU27	EU27	EU27	EU27
Specific data used	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – products*	100%					-	-	-	-	-	-	-	-	-	-	-	-
Variation – sites	<10%					-	-	-	-	-	-	-	-	-	-	-	-

*10mm vs 5mm

Content Declaration

PRODUCT

Ethafoam® 2222 is composed by PE and PE based masterbatches.

Product components	Weight %	Environmental / hazardous properties
LDPE	98	polymer
Additives MB in LDPE	2	processing aids and additives

DISTRIBUTION PACKAGING

Ethafoam® 2222 is distributed with 7.6g packaging per declared unit, having the following composition.

Packaging components	Weight %	Environmental / hazardous properties
Bag	47	plastic PE
Core	53	cardboard

SVHC DECLARATION

Ethafoam® 2222 is not produced with intentional addition of Substances of Very High Concern (SVHC), update of 23rd January 2024 and therefore, SVHC are not expected to be present above 0.1% threshold in the product.

Biogenic CO2 contained in packaging is on avg 0.73Kg/Kg carton.

This packaging configuration contains 2.9 biogenic CO_2 per 1 m^2 of product.

Results of the environmental performance indicators

Impact category indicators

PARAMETER		UNIT	A1-A3	A5	C1	C2	C3	C4	D
Global warming potential (GWP)	Fossil	kg CO2 eq	4.24E-01	5.30E-03	0.00E+00	5.35E-04	0.00E+00	1.69E-03	0.00E+00
	Biogenic	kg CO2 eq	-2.47E-04	3.69E-03	0.00E+00	7.38E-08	0.00E+00	1.19E-06	0.00E+00
	Land use and land transformation	kg CO2 eq	5.57E-04	3.62E-08	0.00E+00	6.77E-08	0.00E+00	5.21E-07	0.00E+00
	TOTAL	kg CO2 eq	4.24E-01	8.99E-03	0.00E+00	5.35E-04	0.00E+00	1.70E-03	0.00E+00
Ozone layer depletion (ODP)		kg CFC 11 eq.	8.86E-09	2.08E-12	0.00E+00	8.18E-12	0.00E+00	4.69E-11	0.00E+00
Acidification potential (AP)		mol H^+ eq.	2.22E-03	9.19E-07	0.00E+00	2.86E-06	0.00E+00	9.19E-06	0.00E+00
Eutrophication potential (EP)	Aquatic freshwater	kg P eq.	7.82E-05	1.13E-08	0.00E+00	9.78E-09	0.00E+00	9.40E-08	0.00E+00
	Aquatic marine	kg N eq.	5.87E-04	1.47E-06	0.00E+00	1.24E-06	0.00E+00	3.88E-06	0.00E+00
	Aquatic terrestrial	mol N eq.	7.26E-03	4.33E-06	0.00E+00	1.35E-05	0.00E+00	4.16E-05	0.00E+00
Photochemical oxidant creation potential (POCP)		kg NMVOC eq.	4.51E-03	1.35E-06	0.00E+00	5.26E-06	0.00E+00	1.59E-05	0.00E+00
Abiotic depletion potential (ADP)*	Metals and minerals	kg Sb eq.	1.80E-06	1.71E-10	0.00E+00	3.36E-10	0.00E+00	3.09E-09	0.00E+00
	Fossil resources	MJ, net calorific value	1.22E+01	9.71E-04	0.00E+00	6.85E-03	0.00E+00	3.40E-02	0.00E+00
Water deprivation potential (WDP)*		m^3 world eq. deprived	3.19E-01	3.21E-05	0.00E+00	1.30E-05	0.00E+00	1.31E-04	0.00E+00
GWP-GHG**		kg CO2 eq	4.27E-01	6.07E-03	0.00E+00	5.35E-04	0.00E+00	1.70E-03	0.00E+00

*The results of this environmental impact indicator shall be used with care as the uncertainties of the results are high and as there is limited experience with the indicator.

**This indicator accounts for all greenhouse gases except biogenic carbon dioxide uptake and emissions and biogenic carbon stored in the product. As such, the indicator is identical to GWP-total except that the CF for biogenic CO_2 is set to zero.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Impact category indicators

PARAMETER		UNIT	A1-A3	A5	C1	C2	C3	C4	D
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	4.93E+00	4.51E-03	0.00E+00	2.68E-05	0.00E+00	8.42E-04	0.00E+00
	Used as raw materials	MJ, net calorific value	5.60E-02	-5.06E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ, net calorific value	4.98E+00	-4.61E-02	0.00E+00	2.68E-05	0.00E+00	8.42E-04	0.00E+00
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	1.22E+01	9.71E-04	0.00E+00	6.85E-03	0.00E+00	3.40E-02	0.00E+00
	Used as raw materials	MJ, net calorific value	7.52E+00	-1.25E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ, net calorific value	1.97E+01	-1.24E-01	0.00E+00	6.85E-03	0.00E+00	3.40E-02	0.00E+00
Secondary material		kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Renewable secondary fuels		MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Non-renewable secondary fuels		MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Net use of fresh water		m^3	4.22E-03	1.15E-06	0.00E+00	4.57E-07	0.00E+00	3.04E-05	0.00E+00

Waste indicators

PARAMETER	UNIT	A1-A3	A5	C1	C2	C3	C4	D
Hazardous waste disposed	kg	4.06E-02	8.42E-09	0.00E+00	4.60E-08	0.00E+00	1.76E-07	0.00E+00
Non-hazardous waste disposed	kg	1.11E-05	7.66E-03	0.00E+00	3.44E-05	0.00E+00	1.65E-01	0.00E+00
Radioactive waste disposed	kg	0.00E+00	3.98E-10	0.00E+00	4.95E-10	0.00E+00	9.97E-09	0.00E+00

Output flow indicators

PARAMETER	UNIT	A1-A3	A5	C1	C2	C3	C4	D
Components for reuse	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	1.76E-03	4.36E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for energy recovery	kg	2.25E-03	2.03E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ per energy carrier	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ per energy carrier	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Additional Environmental information

Ethafoam ®2222 is produced in two different thicknesses, 5 and 10 mm.

In alignment with the PCR (5.4.6.1), conversion factors may be included in an EPD for the purposes of converting the declared results of a product group to results for specific products within the group.

The GWP-GHG of Ethafoam®2222, 10mm thick, can be obtained multiplying by 2 the values of Ethafoam®2222 5 mm.

Differences versus previous versions

2024 03 08 First issue

References

- ISO 14040:2006, Environmental Management - *Life Cycle Assessment - Principles and Framework* International Organization for Standardization, Geneve, Switzerland.
- ISO 14040:2006/AMD 1:2020 - Environmental management — *Life cycle assessment — Principles and framework — Amendment 1,* International Organization for Standardization, Geneve, Switzerland
- ISO 14044:2006. Environmental Management - *Life Cycle Assessment – Requirements and Guidelines*, International Organization for Standardization, Geneve, Switzerland.
- ISO 14044:2006/AMD 1:2017, Environmental Management - *Life Cycle Assessment - Requirements and Guidelines - Amendment 1 2017* International Organization for Standardization, Geneve, Switzerland.
- ISO 14044:2006/AMD 2:2020, Environmental Management - *Life Cycle Assessment - Requirements and Guidelines - Amendment 2 2020* , International Organization for Standardization, Geneve, Switzerland.
- ISO 14025:2006, Environmental labels and declarations - *Type III environmental declarations – Principles and procedures, ISO 14025:2006*, International Organization for Standardization, Geneve, Switzerland.
- ILCD handbook, International Reference Life Data System, General guide for Life Cycle Assessment –Detailed guidance, JRC European Commission
- EN 15804:2012+A2:2019+AC Sustainability of construction works – Environmental product declarations - Core rules for the product category of construction products
- PCR 2019:14 “Construction” version 1.3.1 dated 2023-07-08, www.environdec.com
- General Programme Instructions for the International EPD System, version 4.0, dated 2021-03-29, www.environdec.com
- Central Product Classification (CPC) Series M No. 77, Ver.2.1 https://unstats.un.org/unsd/classifications/Econ/search
- Plastics RecyclersEurope (*https://www.plasticsrecyclers.eu/wp-content/uploads/2022/10/flexible-films-market.pdf*)
- Plastics Europe (*https://plasticseurope.org/knowledge-hub/plastics-the-facts-2022/*).
- Michael Ioelovich. Energy Potential of Natural, Synthetic Polymers and Waste Materials - A Review. Academ J Polym Sci. 2018; 1(1): 555553. DOI: 10.19080/AJOP.2018.01.555553
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www.sealedair.com