



SMARTSTACK® 150 MM HWS CONTACTLESS SHIPPER

Advanced contactless wafer shipping solution enabling safe transport and storage of wafers without risk of contamination

Overview

To meet the demands for smaller, thinner wafers, semiconductor manufacturers require equally smaller transport devices that guard against contamination and damage. The SmartStack® 150 mm contactless horizontal wafer shipper is the right choice for shipping and storing finished wafers of varying thicknesses in a clean, safe environment. Constructed of engineering-grade polymers, the rugged design eliminates the need for TYVEK® interleaf wafer separators or PE foam. The perimeter support ring minimizes the potential for surface area damage and interleaves contamination to finished wafers.

In addition to the superior protection of the contactless horizontal wafer shipper, Entegris also offers secondary packaging to ensure that wafers arrive safely and damage-free. This secondary packaging complies with ISTA-2A drop testing.

Applications

- Advanced chip designs for 3D, 2.5D, MEMS, LED and power semiconductors
- Thin 3D, lens or bumped wafers

Features and Benefits

Features	Benefits
Stackable configuration	Increases shipping density Safely stores and transports up to 25 wafers of varying thicknesses Enables automation compatibility
Rugged, engineering-grade polymer construction	Design eliminates the need for TYVEK interleaf wafer separators or PE foam Perimeter support ring <ul style="list-style-type: none"> • Minimizes the potential for surface area damage and interleaves contamination to finished wafers • Eliminates the likelihood of scuffed or marred wafers or bump damage on finished wafers



Specifications

Wafer size:	150 mm	
Wafer capacity:	25	
Wafer thickness:	Variable (maximum 950 µm)	
Wafer shipper dimensions:	Length	176.02 mm (6.93")
	Width	176.02 mm (6.93")
	Height	90.17 mm (3.55")
	Weight*	0.562 kg (1.25 lb)

*Includes 26 rings

Performance Data

The performance data and physical properties in the following table are based on internal product testing. Each sample was loaded with 26 perimeter support rings and 25 wafers. Single-pack secondary packaging was used. Other details about the testing are as follows:

- Performed internal drop tests on two samples using both 150 micron and 725 micron thick wafers
- Passing results rendered for both samples with standard thickness and thin Si wafers for all drop heights tested
- No unlatching or visual damage to the shippers or rings
- ISTA-2A testing performed with passing results

Property	Test Method	Typical Values
Specific gravity	ASTM D-792	0.97 g/cc
Tensile strength	ASTM D-638	33.3 MPa
Tensile modulus	ASTM D-638	2,207 MPa
Tensile elongation	ASTM D-638	9.7%
Flexural modulus	ASTM D-790	2,069 MPa
Notched izod	ASTM D-256	42.4 J/m
Unnotched izod	ASTM D-256	742 J/m
Volume resistivity	ASTM D-257	10 ¹ -10 ³ ohms-cm
Surface resistivity	ASTM D-257	10 ³ -10 ⁸ ohms/sq.

Note: Properties may be affected by the molding techniques and by the size and shape of each item molded. Favorable results are not guaranteed, and assurances cannot be implied that all molded articles have the sample properties as those listed in the previous table.

Ordering Information

Part Number	Description
HWS150C-101-61C02M	Horizontal wafer shipper including 26 rings
HWR150-26PK-61C02M	26-pack replacement rings
HWS150C-1PK-KIT	1-pack kit – secondary packaging
HWS150C-1PK-CUSH	Cushion – secondary packaging
HWS150C-1PK-BOX	Box – secondary packaging

For More Information

Please call your Regional Customer Service Center today to learn what Entegris can do for you. Visit www.entegris.com and select the Customer Service link for the center nearest you.

Terms and Conditions of Sale

All purchases are subject to Entegris' Terms and Conditions of Sale. To view and print this information, visit www.entegris.com and select the Legal Notices link from the footer.

Entegris®, the Entegris Rings Design®, Creating a Material Advantage® and SmartStack® are registered trademarks of Entegris, Inc. TYVEK® is a registered trademark of E. I. du Pont de Nemours and Company.

ENTEGRIS, INC.

Corporate Headquarters | 129 Concord Road | Billerica, MA 01821 USA
Customer Service Tel. +1 952 556 4181 | Customer Service Fax +1 952 556 8022
In North America 800 394 4083 | www.entegris.com