



## SMARTSTACK® 200 MM HWS CONTACTLESS SHIPPER

*Safely protect and transport bumped wafers  
in full, thin or ultrathin thickness*

### Overview

Technology is quickly shifting to a higher overall percentage of thinner and more sensitive wafers. The main driver behind the thinner, more sensitive wafers is the consumer electronics industries need for smaller, higher performing and lower cost device configurations.

These devices are used in advanced chip designs for 3D, 2.5D, SOC, MEMS, LED and power semiconductors. These new requirements along with 3D applications, are pushing demand for more thin and ultrathin, lens or bumped semiconductor wafers.

As wafer thickness decrease, manufacturing challenges arise. Ultrathin wafers are less stable and more vulnerable to stresses, and the die can be prone to breaking and warping. Our new 200 mm contactless shipper helps address shipping requirements.

### Applications

- Thin, 3D, lensed or bumped wafers

### Features and Benefits

- Capable of holding 25 wafers
- Design eliminates the need to use TYVEK® separators and pink foam cushions
- Designed for automatic compatibility



### Specifications

Wafer size:	200 mm	
Wafer capacity:	25	
Wafer thickness:	Variable (maximum 1100 micron)	
Wafer dimensions:	Length	8.88"
	Width	8.88"
	Height	3.55"
Weight:	0.709 kg (1.5 lb)*	

\*Includes 26 rings

## Performance Data

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

*The information on physical properties included in this document is based on our experience to date, and we believe it to be reliable. Data is obtained from specimens molded under controlled conditions from representative samples of the compound described. Properties may be affected by the molding techniques and by the size and shape of the item molded. We cannot guarantee favorable results and no assurances can be implied that all molded articles have the sample properties as those listed.*

## Ordering Information

HWS200C-101-61C02M	Includes 26 rings
HWR200-26PK-61C02M	26-pack replacement rings
HWS200C-1PK-KIT	1-pack kit – secondary packaging
HWS200C-1PK-CUSH	Cushion – secondary packaging
HWS200C-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](http://www.entegris.com) and select the Customer Service link for the center nearest you.

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