

# SmartStack® Single Layer Inserts

*Cost-effective inserts that can be safely transported by automation systems*

The SmartStack® horizontal wafer shipper (HWS) provides secure protection for processing, storing, and shipping 300 mm, 200 mm, and 150 mm finished wafers.

We offer single layer, nonwoven inserts for use with our SmartStack HWS. The inserts prevent valuable finished wafers from touching, protecting them from damage. They are compatible with automation systems and provide excellent ionic and outgassing protection.

## APPLICATIONS

- Protect valuable finished wafers from touching, preventing damage
- For use with 300 mm, 200 mm, 150 mm SmartStack HWS

## FEATURES & BENEFITS

<b>Vacuum pickable</b>	Enables superior automation performance
<b>Low-particle, low-ionic inserts</b>	Increases protection against die bond corrosion and particle contamination
<b>Electrostatic discharge (ESD) safe</b>	Provides maximum wafer/device protection
<b>Cleanroom packed</b>	Ensures cleanliness and a high-purity product
<b>Nonwoven material</b>	Provides excellent protection for wafers with delicate surface geometries (lensed, bumped, MEMS)
<b>Rigid outer packaging</b>	Maintains insert flatness



*Protective shipping containers maintain product integrity and cleanliness.*

## SPECIFICATIONS

<b>Material</b>	Nonwoven polyethylene	
<b>Color</b>	White	
<b>Thickness</b>	0.25 mm (.010")	
<b>Surface resistivity</b>	ASTM D-257-61	<10 <sup>E12</sup> ohms/sq
<b>Static decay</b>	FTMS 101C M4046.1	<0.2 seconds
<b>Packaging environment</b>	Class 200 cleanroom	
<b>Cleanliness level</b>	Class 200-IEST-STD-CC1246D	
<b>Packaging</b>	Double-bagged in ultraclean polyethylene bags	
<b>Final packaging</b>	Bags of 250 inserts each	

## Organic Contamination Typical Values

Outgassing	<25 µg/g – total cyclic siloxanes <650 µg/g – long carbon chains
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## Ion Contamination Typical Values

Fluoride (F)	<2 µg/g
Bromide (Br)	<6 µg/g
Chloride (Cl)	<10 µg/g
Nitrite (NO <sub>2</sub> )	<2 µg/g
Sodium (Na)	<4 µg/g
Ammonium (NH <sub>4</sub> )	<20 µg/g
Magnesium (Mg)	<1 µg/g
Calcium (Ca)	<4 µg/g
Potassium (K)	<40 µg/g
Nitrate (NO <sub>3</sub> )	<5 µg/g
Sulfate (SO <sub>4</sub> )	<20 µg/g
Phosphate (PO <sub>4</sub> )	<20 µg/g

## ORDERING INFORMATION

Part number	Wafer size
HWS300-SLR250-INS	300 mm
HWS200-SLR250-INS	200 mm
HWS150-SLR250-INS	150 mm

### FOR MORE INFORMATION

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