

# RP-1 13184 Place-N-Bond Underfilm Multi-Purpose



## Significantly Improves Solder Ball/Joint and Shock-Drop Reliability

### Application

Pick and Place Underfilm technology was developed to reduce solder joint fatigue failures caused from drop and shock associated with brittle lead-free solder joints and reduced joint size due to BGA miniaturization.

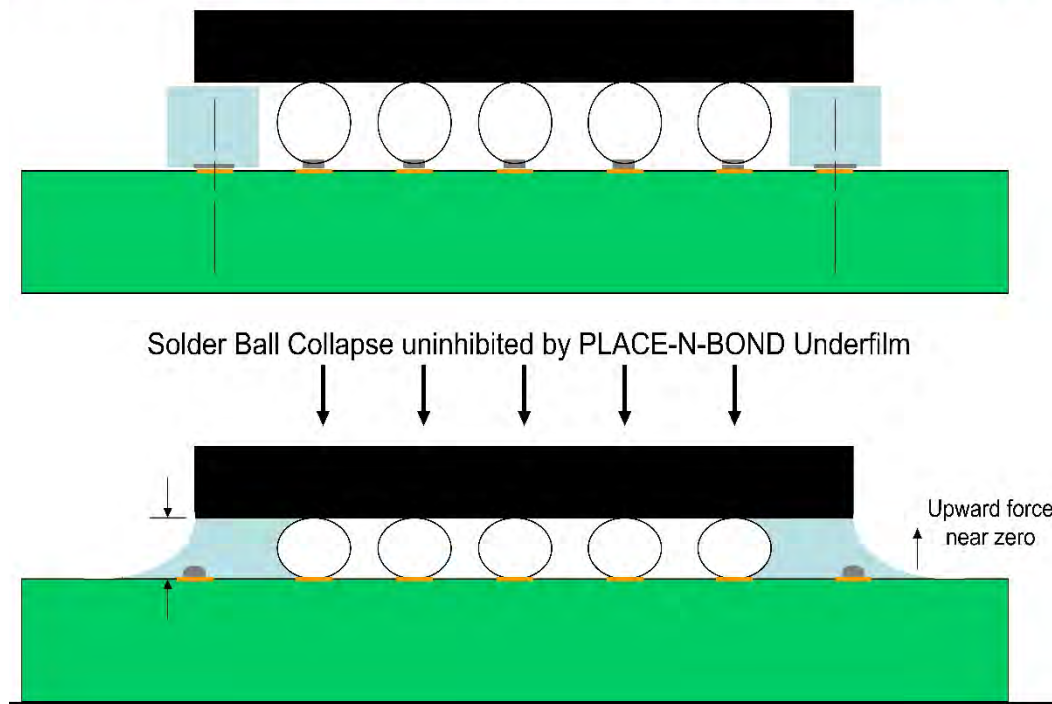
Simplified application utilizing existing tape and reel feeders plus high volume pick and place equipment on a current SMT assembly line.

- Underfilm does not interact with solder or flux
- Over one billion units in service
- Patented in USA and other countries

### Features

- Enhances adhesion for multi-surface bonding
- Reduces cost by combining pick and place plus soldering in one heating pass (no dispensing).
- No capital expense or equipment required
- Compatible with existing lead and Pb-free materials and reflow profiles.
- Air or nitrogen reflow compatible
- Requires no pre-baking of boards
- Reworkable
- RoHS compatible
- AOI easy recognition

### *PLACE-N-BOND Underfilm- Reflow Mechanics*



### Introduction

- Residue and solvent free, requires no post cleaning
- Migration free, will not interfere with solder or flux
- Micro precision technology allows for other SMT components to be placed in close proximity

### Reliability

Underfilm offers excellent adhesion to many devices

Edge weighted 6 foot drop test\* results show a minimum of 10x improvement in solder joint reliability over BGA alone. 50x improvement has been obtained

### Safety

Underfilm is a benign, non-toxic material under a typical reflow profile, REACH compliant

### Manufacturing

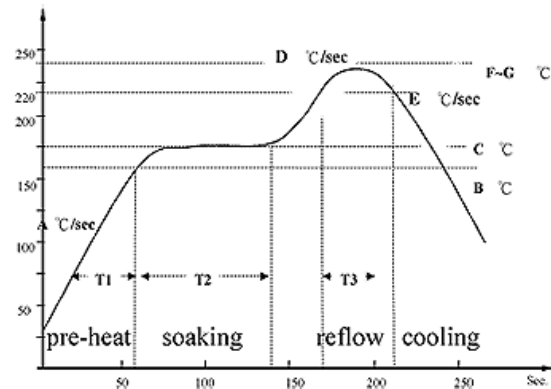
- No equipment purchase required
- No extra floor space required
- No fumes because no dispensing
- No equipment to maintain or needles to clog
- No additional cure cycle
- No uncured cleaning required
- No pre-bake required
- 100% material utilization because no dispense

### Packaging

- Supplied on reel per EIA 481 carrier tape.
- Utilization of precision carrier tape, cover tape and standard reels
- Static shielding bag and sealed, MSL 1

### Process Recommendations

- Screen print solder paste, pick and place Underfilm, pick and place BGA, reflow
- No dehydration bake required / no clean
- Standard Pb-free reflow profiles can be used



### Rework

Underfilm is 100% reworkable

### Storage and Handling

- No special storage or handling required
- Outstanding shelf life

### Mechanical

Hardness Shore A	82A
Tensile Modulus	20 mPal
Vicat Softening Point	77C
Specific Gravity	1.00 g/cc
CTE	21 10 <sup>-5</sup> / <sup>^</sup> C

## Our Product Portfolio



Label Feeder, also for special parts



Label/ Laser Marker and labels



Tape Feeder und accessories



Tray Handler / Reject Parts Conveyor



Manual Taping Systems



Automatic Packing Systems



Optical Bonding



Thermal Bonding



Place-N-Bond Underfilm



Univers. In-System Programmiers



Reflow Inline Video Camera



Depaneling Systems