

# New Cleanroom Gowning Area Technology Proves to be Beneficial

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## Background:

Hybrid Manufacturing areas are controlled environments called “cleanrooms”

Gowning rooms are entries located adjacent to cleanrooms

Items used for containing “people particles” are “donned” or “put on” in the gowning room before entering the cleanroom (bouffants, face masks, garments, ESD shoes, and gloves)

Blue Tacky Mats are floor mats used to capture dirt from our “street shoes” as we enter the gowning room

Bldg 8 spent \$24,000 on Blue Tacky Mats in 2009

Bldg 8 threw approximately one ton (2028 lbs) of used plastic tacky mat sheets in the trash in 2009



The Blue Peel-Off Tacky Mats

## An Opportunity for Improvement was Identified

A new permanent “Tacky Mat” substitute was introduced by Dycem Corporation

Material is called “Dycem Cleanzone Premier Floor Covering”

No peel off layers, the Dycem floor material is cleaned with a Steam Cleaner (no chemicals or detergent used for cleaning)

Lifetime for the Dycem floor material is 5 years- in that time, bldg 8 will have spent \$120,000 on Blue Tacky Mats

The benefits of the Dycem material were anticipated to be:

- Less particles in the gowning room
- Less expense (no blue tacky mats would need to be purchased)
- More Green (no more plastic tacky mat sheets in the trash)

## Method:

A Project Plan was developed and presented to Hybrid Manufacturing Management

Financial feasibility was analyzed- \$40,000 will be spent on the Dycem floor material and installation, which is 20 months worth of Blue Tacky Mats- the Dycem material should last for 5 years or 60 months- A financial benefit is forecasted

Management approves the project plan

Airborne particle counters were added to gowning room Aug 24<sup>th</sup>

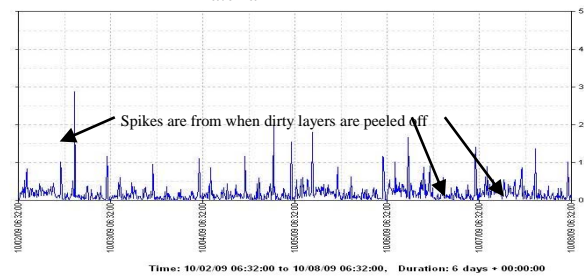
Collected 12 weeks of particle data with Blue Tacky Mats in use

Dycem material was installed on November 27th, 2009



Building 8 Gowning Room with Dycem Floor Material

## Building 8 Gowning Room with Dycem Floor Material



The graph above shows the airborne particle counts in the building 8 gown room when the blue peel-off tacky mats were in place. The spikes are from when the dirty top sheets are being peeled off. Note the average airborne particle count during this week was 185, 0.5 micron and larger particles per cubic foot of air.

Particle Counts with Blue Tacky Mats

## Results:

Airborne particles in the Bldg 8 gowning room are reduced 75%

No more huge release of particles when dirty top sheets of the Blue Tacky Mat stacks are being peeled off

People are bringing dirt out of the cleanroom via their ESD shoes

## Summary of the Dycem Cleanzone Premier Floor Covering:

Much cleaner – way less airborne particles in gowning room

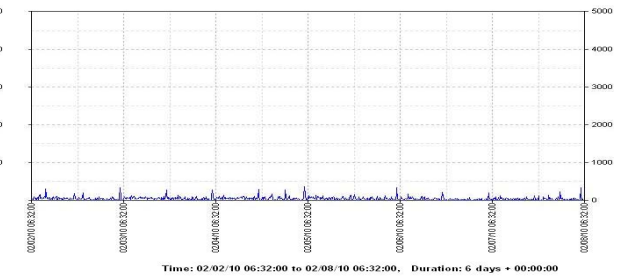
Saves money – in the 5 year life of the Dycem floor material, \$80,000 will have been saved over buying Blue Tacky Mats

Saves time – Custodians report 2 hours per day savings

More GREEN – significantly less plastic going into the trash- more than 5 tons of plastic over the next five years not going into the landfill



## 1 Ton of Tacky Mat Plastic per Year is No Longer Going into Trash



The graph above shows the airborne particle counts in the building 8 gown room after the Dycem Floor Covering was in place (February 2010). There are no spikes from dirty top sheets being peeled off. Note the average airborne particle count during this week was 43, 0.5 micron and larger particles per cubic foot of air.

Particle Counts with Dycem Floor Material