PAINTCON '93

FINISH WORLD CLASS!

LIQUID COATINGS

MAY 5, 1993
8:00 A.M. to NOON

DRY-FILTER SPRAY BOOTH SYSTEMS
OVERSPRAY CONTROL
TIPS

PRESENTED BY

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DRY FILTER SPRAY BOOTH SYSTEM OVERSPRAY CONTROL

IN ORDER TO BETTER UNDERSTAND NEW SYSTEMS NOW AVAILABLE IN THE MARKET PLACE FOR OVERSPRAY CONTROL, IT IS FIRST IMPORTANT TO UNDERSTAND THE BASIC DESIGN AND FUNCTION OF A DRY-FILTER PAINT SPRAY BOOTH.

THE BASIC DESIGN AND FUNCTION OF A SPRAY BOOTH IS TO PROVIDE POSITIVE AIR MOVEMENT THROUGH A GIVEN SPRAY AREA FOR THE CAPTURE AND REMOVAL OF SOLVENT FUMES AND PAINT OVERSPRAY IN ORDER TO ASSURE A HEALTHY AND SAFE WORKING ENVIRONMENT AND A CLEAN SYSTEM FOR QUALITY PAINT FINISHES.

A DRY FILTER BOOTH CAPTURES PAINT OVERSPRAY MECHANICALLY BY ARRESTING PAINT PARTICLES FROM THE AIR AS THE AIR PASSES THROUGH SOME TYPE OF DRY FILTER MEDIA.

THERE ARE NUMEROUS TYPES OF EXHAUST FILTERS THAT ARE DESIGNED AND ENGINEERED WITH SPECIFIC FILTER EFFICIENCY. THESE FILTERS RANGE FROM EITHER ROLLS OR PADS OF EXPANDED OR TREATED PAPER PRODUCTS, SYNTHETIC MATERIALS AND ETC. MANUFACTURERS OF FILTERS HAVE DATA SPECIFICATIONS AVAILABLE ON THEIR PRODUCT EFFICIENCY RATINGS. IT IS IMPORTANT THAT THIS INFORMATION BE CHECKED TO MAKE SURE THAT THE CORRECT FILTERS ARE BEING USED WITH A SPECIFIC SPRAY BOOTH.
THE NORMAL RULE OF THUMB TO CONTROL PAINT OVERSPRAY IN DRY FILTER BOOTHS, IS TO CHANGE THE EXHAUST FILTER MEDIA WHEN THE STATIC PRESSURE DIFFERENTIAL ACROSS THE FILTERS EXCEEDS .25" OF WATER COLUMN.

THE HEART OF ALL SPRAY BOOTHS IS THE EXHAUST FAN AND MOTOR. IT IS FOR THIS REASON THAT THE EXHAUST SYSTEM MUST ALWAYS BE CHECKED FOR PROPER PRM, AMPERAGE DRAW AND CLEANLINESS.

THE INHERENT PROBLEM WITH DRY TYPE FILTER BOOTHS IS THE INABILITY TO HAVE CONSTANT UNIFORM AIR MOVEMENT BECAUSE AS DRY FILTERS BEGIN TO CAPTURE OVERSPRAY, STATIC PRESSURE INCREASES AND EXHAUST FAN EFFICIENCY DECLINES WHICH CAUSES THE AIR FLOW VELOCITY TO DROP.

THIS SITUATION CAUSES THE PROBLEM OF OVERSPRAY AND SOLVENT FUMES COLLECTING IN THE WORK AREA.

THE PURPOSE OF MY PRESENTATION IS TO BRING TO YOUR ATTENTION SEVERAL NEW IDEAS OR TIPS.

RECENTLY NEW PROVEN HI-TECH SYSTEMS HAVE BEEN INTRODUCED FOR CONTROLLING OVERSPRAY AND INCREASING TRANSFER EFFICIENCY IN ALL TYPES OF DRY FILTER BOOTHS.
**TIP #1: CONSTA FLO "TM"**

CONSTA FLO "TM" IS A PATENTED SYSTEM FROM J.B.I. THAT WILL CONTROL OVERSPRAY BY MONITORING AND MAINTAINING CONSTANT AIR FLOW VELOCITY WITHIN DRY FILTER BOOTHS. THIS TRULY UNIQUE SYSTEM AUTOMATICALLY ADJUSTS EXHAUST AIR VELOCITY AS DRY FILTERS BEGIN TO LOAD. A PHOTOHELCIC "TM" GAUGE AND SENSING DEVICES ARE USED IN CONJUNCTION WITH J.B.I. TECHNOLOGY TO READ PRESSURE DROP BETWEEN TWO SET POINTS. WHEN EITHER SET POINT OF PRESSURE IS REACHED, THE J.B.I. CONSTA FLO "TM" SYSTEM IS ELECTRONICALLY ACTIVATED TO ADJUST SO THAT ORIGINAL CFM DESIGNED FOR THE PAINT SPRAY BOOTH IS MAINTAINED.

CONTROLLING OVERSPRAY ENSURES A CLEAN WORK AREA AND HIGH TRANSFER EFFICIENCY. THE COMBINATION OF THESE MAJOR FEATURES DRAMATICALLY IMPROVES PRODUCT FINISHING WITHIN THE SPRAY FINISHING SYSTEM.

**TIP #2:**

COLLECTING AND RECLAIMING OVERSPRAY WHEN USING THERMOSETTING HIGH-SOLIDS OR UV COATINGS IS NOW POSSIBLE. THESE MATERIALS REMAIN STICKY AND FLOWABLE AND HAVE CREATED MANY PROBLEMS FOR SPRAY BOOTH MAINTENANCE AND OVERSPRAY CONTROL. HOWEVER, BECAUSE OF THESE SAME BASIC CHARACTERISTICS, IT IS POSSIBLE TO COLLECT, RECOVER AND RECYCLE THE OVERSPRAY ASSOCIATED WITH THE SPRAY APPLICATION OF HIGH SOLIDS AND U.V. COATINGS.
TODAY, THERE ARE AT LEAST TWO COMPANIES ACTIVELY MARKETING A LIQUID COATING OVERSPRAY RECOVERY SYSTEM. THESE SYSTEMS HAVE TRULY DEMONSTRATED THEIR ABILITY TO CONTROL PAINT OVERSPRAY AND AT THE SAME TIME GENERATE MAJOR SAVINGS BY DRAMATICALLY REDUCING OPERATING EXPENSE.

THE SAVINGS ARE AS FOLLOWS:

* FILTER REPLACEMENT - - - UP TO 90%

* MATERIAL SAVINGS, BY REUSING OVERSPRAY - - - UP TO 50% DEPENDING ON THE COST OF MATERIAL, TRANSFER EFFICIENCY, SPRAY EQUIPMENT AND THE METHOD OF RECYCLING

* BOOTH MAINTENANCE - - - UP TO 92% IN LABOR SAVINGS.

IN ADDITION, THERE ARE TWO OTHER MAJOR FACTORS THAT COULD ALSO BE REALIZED WITH THIS APPLICATION.

1. 25% REDUCTION IN VOC EMISSIONS FOR PERMITTING BECAUSE RECOVERED OVERSPRAY PAINT CONTAIN APPROXIMATELY 25% OF THE ORIGINAL SOLVENT.

2. COST OF DISPOSING USED FILTERS:
   
   A NATIONAL TREND IS NOW IN PLACE WHEREBY MANY LOCAL LANDFILLS WILL NO LONGER ACCEPT CURED FILTERS AS NORMAL INDUSTRIAL WASTE. IF THIS SITUATION NOW EXISTS IN YOUR AREA, YOUR COMPANY CAN ENJOY ANOTHER MAJOR COST REDUCTION BECAUSE OF THE REDUCED NUMBER OF FILTERS THAT WOULD HAVE TO BE DISPOSED AS HAZARDOUS WASTE.
TIP #3:

IN THE QUEST TO CONTROL OVERSPRAY IN DRY FILTER BOOTHs, THERE ARE NOW SEVERAL DIFFERENT TYPES OF BAFFLES/FILTERS AVAILABLE. THE MANUFACTURERS FOR THESE SYSTEMs HAVE STATED CLAIMS AND THEY NEED TO BE INDIVIDUALLY EVALUATED BASED ON THE TYPE OF APPLICATION.

THERE IS ONLY ONE PRODUCT THAT I CAN DISCUSS WITH YOU BECAUSE IT IS A SYSTEM THAT I DO KNOW TO BE FUNCTIONAL WITH SATISFIED CUSTOMERS SUPPORTED WITH FOUR YEARS OF FIELD PERFORMANCE.

REUSABLE PAINT COLLECTOR MANUFACTURED BY J.B.I.

THIS PARTICULAR BAFFLE/FILTER WILL COLLECT AND HOLD UP TO 7 TO 8 LBS OF PAINT OVERSPRAY. THIS COLLECTOR CAN BE USED WITH EITHER WET OR AIR DRY COATINGS.

THE PAINT COLLECTOR ALSO FEATURES A 1" POLYESTER FINAL FILTER THAT COLLECTS 99+% OF THE PARTICULATE DOWN TO 10 MICRONS.

ONE OF THE MAJOR FEATURES FOR THIS SYSTEM, IS THAT THE J.B.I. PAINT COLLECTOR IS CONSTRUCTED FROM 18 AND 20 GAUGE ALUMINIZED STEEL AND THEREFORE THEY CAN BE THERMALLY CLEANED WITH A LIFE CYCLE OF APPROXIMATELY 200 CLEANINGS. IN FACT, DURING THE CLEANING PROCESS, THE POLYESTER FILTER IS INCINERATED. THIS ADDED FEATURE ELIMINATES THE COST OF DISPOSING USED PAINT FILTERS.

THE ABILITY TO CONTROL OVERSPRAY AND TOTALLY ELIMINATE FILTER DISPOSAL MAKES THIS PRODUCT A Viable ITEM FOR ALL DRY FILTER SPRAY BOOTHs.
CONTROLLING OVERSPIX IN DRY FILTER SPRAY BOOTHS HAS ALWAYS BEEN A MAJOR PROBLEM. THE HI-TECH PRODUCTS THAT ARE NOW AVAILABLE IN THE MARKET ARE DESIGNED AND ENGINEERED TO SOLVE MANY OF THE ENVIRONMENTAL PROBLEMS WHILE AT THE SAME TIME CREATE MORE EFFICIENT SYSTEMS IN MFG. PLANTS THAT MUST COMPETE IN A WORLD MARKET.