

STATIC CONTROL PRODUCTS

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ELECTROSTATIC AND TRIBOELETRIFICATION
TESTING OF PACKAGING FOAM
COMMISIONED BY BIFPAK* FOAM CORPORATION

PERFORMED BY PATRICK TURNER
STATIC CONTROL PRODUCTS

CONDITIONS	30 % RH 78 DEGREES F
EQUIPMENT	AIM 5000 DECAY ANALYZER #A50053 CAL 8/19/92 EA 1000 ESD ANALYZER #CA00082 CAL 3/2/90 SYNTRON J1A VIBRATION TABLE CAL NO REQUIRED
TEST MODE FOAMS	COMPARATIVE TESTING VIA FOUR CURRENTLY USED FOAM 1: BIFPAK* (ORGANIC) FOAM 2: ECOFOAM (ORGANIC/POLYMER) FOAM 3: PINK A/S STYROFOAM (TREATED) FOAM 4: WHITE STYROFOAM (NON-TREATED)
PREPARATION	AL FOAMS STABILIZED FOR 72 HOURS TO SAME CONDIDIONS AT ABOVE TEST SITE. ALSO PREPARED FOR TESTS 1 CUBIC FT. BOX (PLAIN KRAFT CARDBOARD) 1 CUBIC FT. BOX (CONDUCTIVE KRAFT CARDBOARD)
TEST PERFORMED	ALL FOAMS SEQUENCED THROUGH AS A GROUP +/- DECAY RATE FROM 1000 VOLTS TO +/-E Q VALUE (CHARGE HOLDING ABILITY) CAPACITANCE VALUE TRIBOELECTRIFICATION VALUES

* BIFPACK IS ALSO PUFFY STUFF

SUMMARY OF TEST PERFORMED

DECAY TESTS

BIFPAK* FOAM-DECAY TEST SHOWS HIGH CONDUCTIVITY. THE ABILITY TO QUICKLY DECAY VOLTAGE TO BACKGROUND LEVELS IN <30 SECONDS IS UNIQUE

ECOFOAM-DECAY TEST SHOWS GOOD CONDUCTIVITY. THE ABILITY TO DECAY VOLTAGE TO BACKGROUND LEVELS TOOK >70 SECONDS.

WHITE FOAM-DECAY TEST WERE NOT POSSIBLE DUE TO NON-CONDUCTIVITY OF MATERIAL.

PINK A/S FOAM-DECAY TEST SHOW SLIGHT POSITIVE IMBALANCE (STYROFOAM IS A POSITIVE CHARGE GENERATOR). DECAY TIME IS APPROXIMATELY 2 SECONDS AND MATERIAL DID NOT RETURN TO BACKGROUND LEVELS.

TRIBOELECTRIFICATION TESTS

BIFPAK*- LOW Q. LOW CAPACITANCE AND TENDENCY TO LOOSE CHARGE QUICKLY (ESPECIALLY IN CONDUCTIVE CONTAINER) RESULT IN EXCELLENT TIGHT OR LOOSE FILL PACKAGING MATERIAL. (THIS MATERIAL TENDS TO SHED NON CHARGED PARTICLES DURING VIBRATION TESTS.)

ECOFOAM- LOW Q. MID RANGE CAPACITANCE AND AVERAGE TENDENCY TO LOOSE CHARGE RESULT IN GOOD TIGHT MATERIAL. ONLY FAIR AS LOOSE PACKAGE MATERIAL.

WHITE FOAM- HIGH Q. LOW CAPACITANCE AND NO TENDENCY TO LOOSE CHARGE RESULT IN VERY POOR LOOSE OR TIGHT PACKAGING MATERIAL.

PINK A/S FOAM- MINIMUM Q. MID RANGE CAPACITANCE AND GOOD TENDENCY TO LOOSE CHARGE RESULT IN OVERALL FAIR ESD CHARACTERISTICS IN LOOSE OR TIGHT PACKAGING MATERIALS. (THIS MATERIAL WORKS BEST IN CONDUCTIVE PACKAGES.)

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