### HART CLOSET BUSINESS REVIEW

### **SITUATION ANALYSIS**

- MARKET
- TECHNOLOGY
  - CULTURE
- REGULATORY
- COMPETITION
- PROFITABILITY

### **MARKET**

### **MARKET SUMMARY**

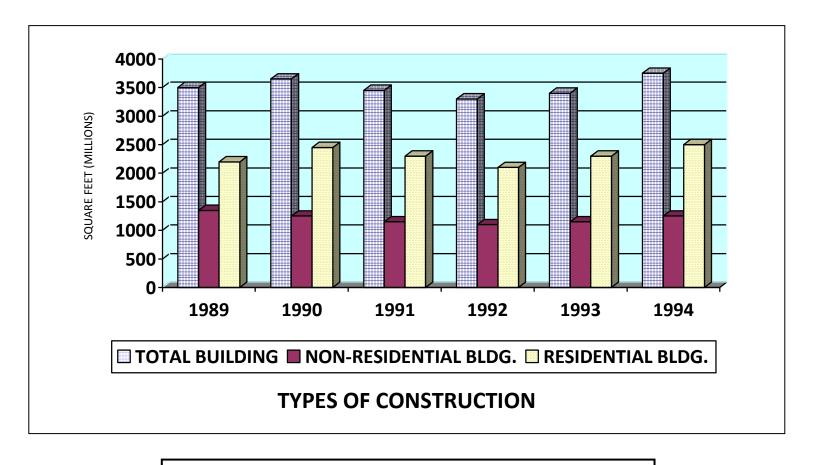
- THE NORTH AMERICAN MARKET IS HUGE
- CLOSET POTENTIAL
   SALES 2 BILLION DOLLARS ANNUALLY
   UNITS 11,000,000 +
- 90% OF CLOSET POTENTIAL IS U.S. MARKET
- 72% OF CLOSET POTENTIAL IS IN SINGLE FAMILY CONSTRUCTION
- 15% OF CLOSET POTENTIAL IS IN CALIFORNIA
- TOP BUILDERS HAVE DISPROPORTIONATE MARKET SHARE

TOP 100 BUILDERS – 15% TOP 400 BUILDERS – 30%

- 33 OF TOP 100 BUILDERS LOCATED IN CALIFORNIA
- 10 OF TOP 100 BUILDERS INTERESTED IN CALIFORNIA FIELD TEST

#### **TOTAL BUILDING ACTIVITY**

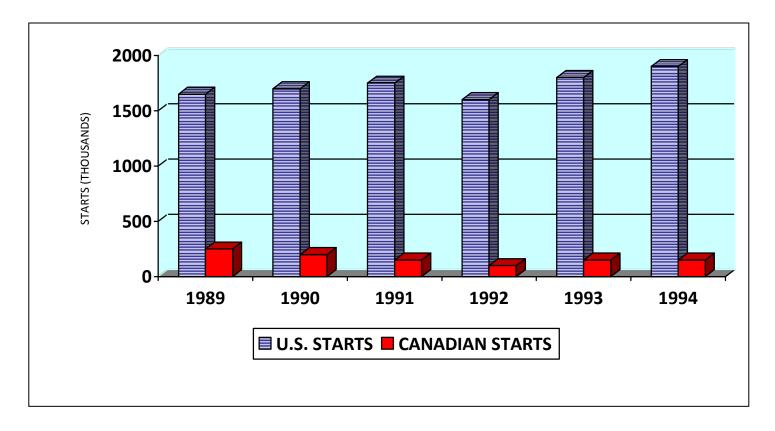
**MILLIONS OF SQUARE FEET** 



2/3 OF BUILDING ACTIVITY IS RESIDENTIAL CONSTRUCTION

#### **NORTH AMERICAN HOUSING STARTS**

**UNITED STATES VS. CANADA** 



90% OF NORTH AMERICAN HOUSING STARTS OCCUR IN THE U.S.

### **CLOSET POTENTIAL PER START**

SINGLE FAMILY 7 CLOSETS / START

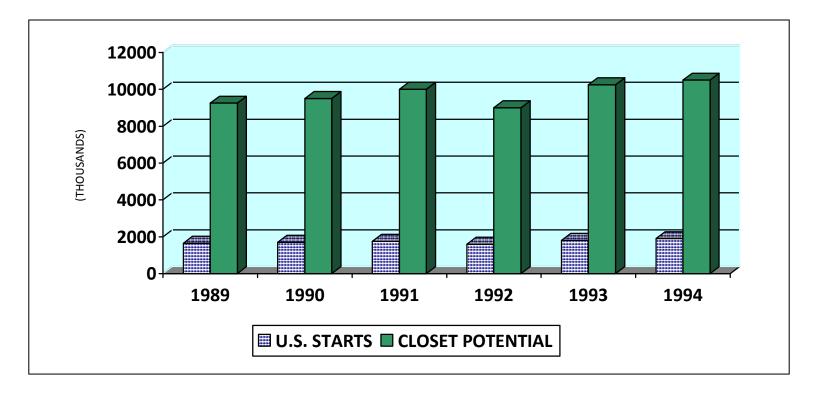
MULTI-FAMILY 4 CLOSETS / START

MOBILE HOMES 4 CLOSETS / START

HOTEL / MOTEL 1 CLOSET / START

### **UNITED STATES HOUSING**

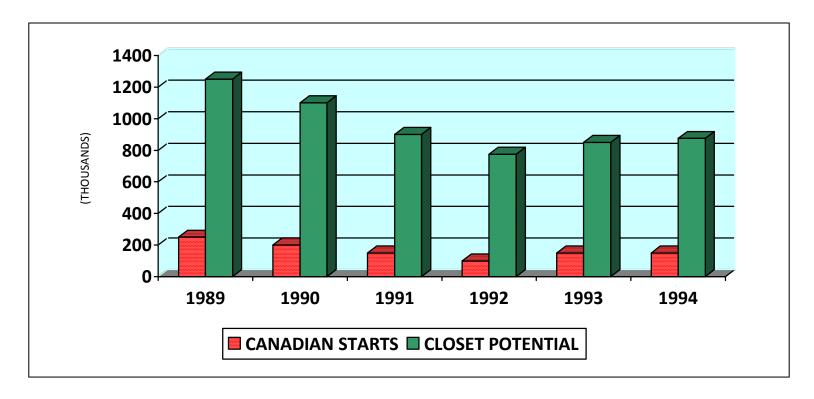
STARTS VS. CLOSET POTENTIAL



UNITED STATES POTENTIAL IS 10,000,000 CLOSETS

### **CANADIAN HOUSING**

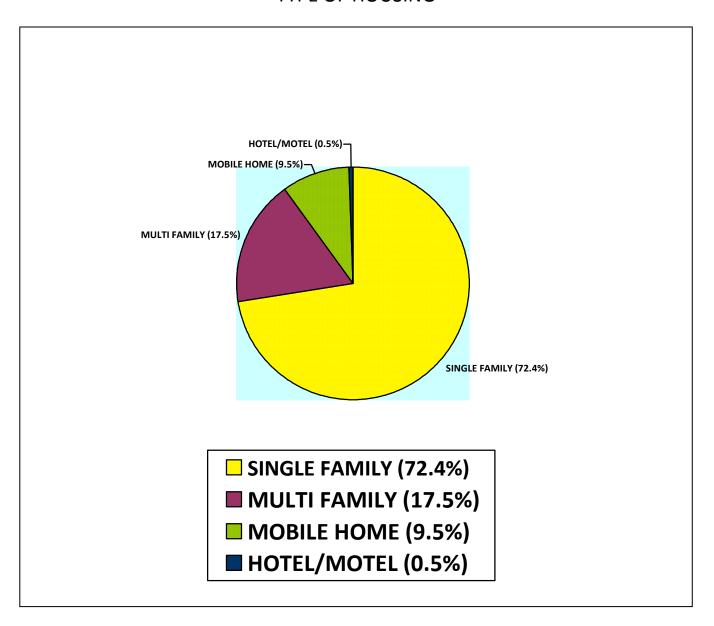
STARTS VS. CLOSET POTENTIAL



CANADIAN POTENTIAL IS LESS THAN 1,000,000 CLOSETS

### 1990 U.S. CLOSET POTENTIAL

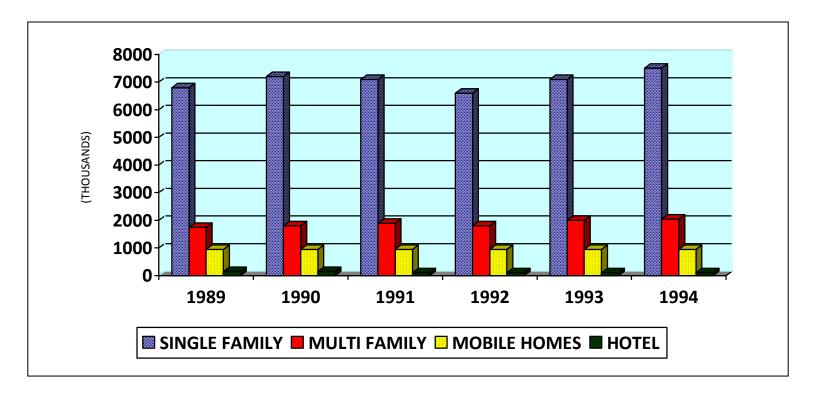
TYPE OF HOUSING



### SINGLE FAMILY DOMINATES U.S. CLOSET POTENTIAL

### **UNITED STATES CLOSET POTENTIAL**

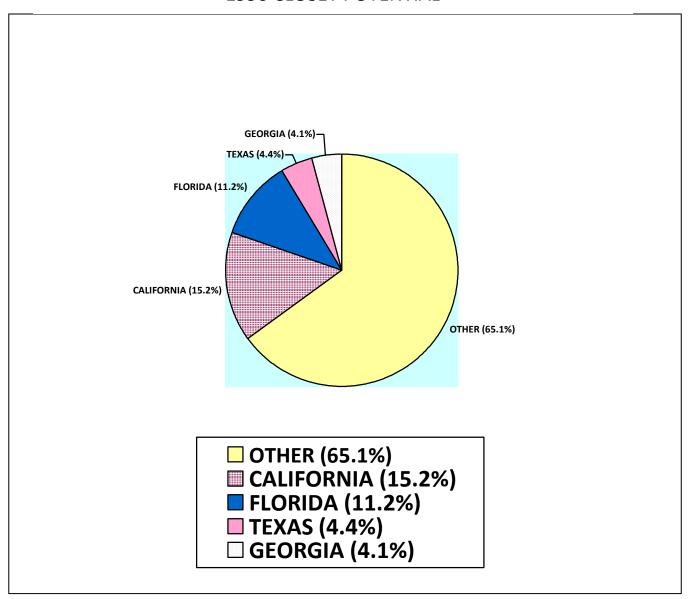
TYPES OF HOUSING



7,000,000 CLOSETS

#### **MAJOR STATES**

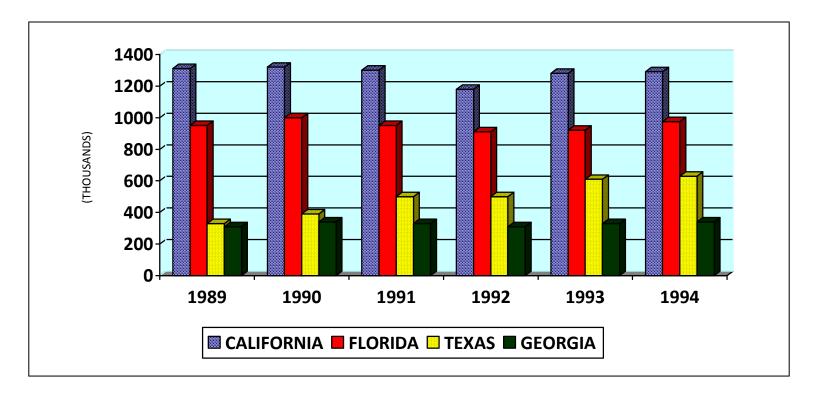
1990 CLOSET POTENTIAL



### FOUR STATES ACCOUNT FOR 1/3 OF CLOSET POTENTIAL

### **MAJOR STATES**

**CLOSET POTENTIAL** 



CALIFORNIA POTENTIAL ALONE IS <u>1,300,000</u> CLOSETS

## NORTH AMERICAN CLOSET SALES POTENTIAL

\$2 **BILLION** ANNUALLY

# TOP 40 U.S. BUILDERS PERCENT (%) MARKET SHARE

	MOBILE	
CONVENTIONAL	HOME	TOTAL
UNITS	UNITS	UNITS
25.7%	75.9%	32.9%
27.9%	69.2%	33.8%
25.2%	70.6%	34.7%
24.6%	73.7%	30.7%
23.3%	68.6%	29.1%
	UNITS  25.7% 27.9% 25.2% 24.6%	CONVENTIONAL HOME UNITS  25.7% 75.9% 27.9% 69.2% 25.2% 70.6% 24.6% 73.7%

## TOP 400 BUILDERS HAVE A DISPROPORTIONATE MARKET SHARE.

### U.S. BUILDERS 1989 MARKET SHARE

<u>BUILDERS</u> SHARE	<u>STARTS</u>	<u>MARKET</u>
SHAIL		
TOP 100	220,293	14.8%
TOP 400	346,378	23.3%

TOP 100 BUILDERS ACCOUNT FOR 15% OF STARTS.

## TOP 100 BUILDERS 1989 CLOSET POTENTIAL

TOTAL STARTS CLOSET POTENTIAL

220,243 1,223,238 CLOSETS

TOP 100 BUILDERS ARE 12% OF U.S. CLOSET POTENTIAL.

# TOP 100 BUILDERS HEADQUARTER LOCATIONS

<u>STATE</u>		NUMBER	OF	TOP	100
BUILDERS					
CALIFORNIA	4		33		
TEXAS			13		
FLORIDA			7		
GEORGIA			3		
	TOTAL		56		

ONE THIRD (1/3) OF TOP 100 BUILDERS ARE LOCATED IN CALIFORNIA.

## TOTAL CALIFORNIA BUILDERS POSSIBLE TEST SITES

<u>RANK</u>	COMPANY	<u>STARTS</u>
4	THE WILLIAM LYON COMPANY	6,480
7	KAUFMAN & BROAD	6,043
12	A.G. SPANOS CONSTRUCTION	3,945
20	LINCOLN PROPERTY COMPANY	2,914
30	PRESLEY COMPANY	2,377
52	WARMINGTON HOMES	1,365
58	FIELDSTONE COMPANY	1,300
65	FIRST CITY PROPERTIES	1,238
66	BARRETT-RANGE CORPORATION	1,236
99	PACIFIC SCENE	1,164
TO	ATA I	20.062
10	TAL	28,062

TEN (10) MAJOR BUILDERS ARE INTERESTED IN FIELD TESTS IN THE CALIFORNIA MARKET.

### OTHER CALIFORNIA BUILDERS POSSIBLE TEST SITES

COMPANY	<u>STARTS</u>
MALCOLM CORPORATION	40
HUFF CONSTRUCTION	25
AKINS DEVELOPMENT COMPANY	800
ATHERTON-KIRK DEVELOPMENT	600
KIRK DEVELOPMENT	50
ANOTHER TREE DEVELOPMENT CORPORATION	200
FUTURE PROPERTIES, INC.	50
M.W. LEWIS, INC.	50
G.B.R. CONSTRUCTION COMPANY	15
JENNINGS OPERATIONS, INC.	500
NICK TRAVAGLIONE CONSTRUCTION	1,000
THE HOUSING GROUP	700
BARRY SWENSON BUILDER	400
RAYMUS DEVELOPMENT	400
BERRY HOMES, INC.	200
ESTATE HOMES OF N. CALIFORNIA, INC.	200
TOTAL	5,230

SIXTEEN (16) SMALLER CALIFORNIA BUILDERS WOULD PARTICIPATE IN FIELD TEST.

### SEQUENCE OF EVENTS NEW RESIDENTIAL CONSTRUCTION



## CLOSETS ARE INSTALLED PRIOR TO OR DURING FRAMING.

### COMPARISON OF POSSIBLE TRADES TO INSTALL HART CLOSETS

KEY ELEMENTS	FRAMER	DRYWALLER	INSULATION CONTRACTOR	SHOWER & TUB INSTALLER	CLOSET ORGANIZER INSTALLER	FINISH CARPENTER
Normally at jobsite when closets must be installed.	Yes					Yes
Installs items requiring good finished appearance.	Yes	Yes		Yes	Yes	Yes
3. Quotes material & labor.		Yes	Yes	Yes	Yes	
4. Use in tight production schedules.	Yes	Yes	Yes			Yes
5. Could train personnel to install closets	Yes	Yes	Yes		Yes	Yes
6. Purchases material through an existing Johns-Manville channel of distribution.		Yes	Yes			

JOHNS-MANVILLE INSULATION CONTRACTORS
COULD BE TRAINED TO INSTALL CLOSETS.

### **TECHNOLOGY**

#### **PROCESSES REVIEWED**

#### **THERMOSET**

- HAND LAY-UP / SPRAY-UP
- COMPRESSION MOLDING
- RESIN TRANSFER MOLDING
- PULTRUSION
- REACTION INJECTION MOLDING

#### **THERMOPLASTICS**

- VACUUM FORMING
- ROTATION MOLDING
- STRUCTURAL FOAM
- INJECTION MOLDING

# FOUR CANDIDATE PROCESSES FOR CLOSET PRODUCTION

HAND LAY-UP OR SPRAY-UP (HLU/SU)

COMPRESSION MOLDING (SMC)
 SHEET MOLDING COMPOUND

• VACUUM FORMING (VF)

• STEEL OR ALUMINUM (PRESSED)

### **ISORCA CREDENTIALS**

- SIX PRINCIPLES 200 YEARS COMBINED
   EXPERIENCE AT OWENS-CORNING IN POLYMER
   COMPOSITE TECHNOLOGY
- MAJOR PRODUCT DEVELOPMENTS
  - FIBERGLASS BATH TUBS
  - FIBERGLASS STORAGE TANKS
  - VARIOUS AUTOMOTIVE COMPONENTS
- MAJOR CLIENTS
  - WEYERHAEUSER
  - OWENS-CORNING
  - CERTAINTEED
  - PHILLIPS PETROLEUM
  - CHEVRON
  - EDISON FOUNDATION
  - SOCIETY OF THE PLASTICS INDUSTRY

### ISORCA EXPERIENCE EXCEEDS JOHNS-MANVILLE R&D CAPABILITY.

# ISORCA FORMULA FOR SUCCESSFUL FRP DESIGN

- LARGE
- COMPLEX
- STRUCTURAL
- SHAPE

MUST HAVE STRUCTURAL
REQUIREMENT FOR FRP PART OR
COMPETITION WILL DESIGN AROUND
YOUR DESIGN.
CLOSET NOT STRUCTURAL.

#### **PROCESS SUMMARY**

- VACUUM FORMING BEST CHOICE FOR DESIGN AND PROCESS FLEXIBILITY
- VACUUM FORMING IS LEAST EXPENSIVE FOR MOLDS AND EQUIPMENT
- VACUUM FORMING IS LOWEST COST
- ISORCA RECOMMENDS VACUUM FORMING, NOT FRP
- JOHNS-MANVILLE HAS PHASE-IN MANUFACTURING CAPABILITY AT CEEL-CO AND ZESTON

### **PROCESS – MATERIAL COMPARISON**

<u>FEATURE</u>	HLU / SU	<u>SMC</u>	<u>VF</u>
MATERIALS	THERMOSET	THERMOSET	THERMOPLASTICS
DESIGN FLEXIBILITY	HIGH	HIGH	HIGH
DETAIL	LOW	HIGH	HIGH
SURFACE APPEARANCE	FAIR - GOOD	GOOD - EXCELLENT	GOOD - EXCELLENT
PROCESS FLEXIBILITY	HIGH	LOW	HIGH

VACUUM FORMING BEST CHOICE FOR DESIGN AND PROCESS FLEXIBILITY.

### **PROCESS – INVESTMENT COMPARISON**

<u>FEATURE</u>	HLU / SU	<u>SMC</u>	<u>VF</u>
PRODUCTION RATE	LOW	HIGH	HIGH
	6	1 PART / 3-4	1 PART / 2-3
	PART/DAY/SHIFT	MINUTES	MINUTES
CAPITAL EQUIPMENT	LOW	HIGH \$200M –	LOW
	\$150,000	\$10MM	\$50M - \$200M
MOLD COST	LOW	HIGH	LOW
2' X 8'	\$1,500	\$150,000	\$500
MANPOWER DIRECT			
LABOR	HIGH	LOW	LOW

VACUUM FORMING IS INEXPENSIVE FOR EQUIPMENT AND MOLDS.

### **PROCESS – INVESTMENT COMPARISON**

<u>FEATURE</u>	HLU / SU	<u>SMC</u>	<u>VF</u>
COST (5' WIDE CLOSET SHELL ONLY)	\$100 - \$110	\$100	\$70 - \$80
WEIGHT IN POUNDS	100	75	50
THICKNESS IN INCHES	.100	.085100	.060075

#### VACUUM FORMING IS LOWEST COST.

#### **ISORCA RECOMMENDATION**

- USE VACUUM FORMING PROCESS
- DO NOT USE FIBERGLASS REINFORCED PLASTICS

JOHNS-MANVILLE COULD INVEST MONEY FOR MORE EXPENSIVE PROCESS BUT COMPETITORS WILL USE VACUUM FORMING TO WIN.

# MANVILLE VACUUM FORMING CAPABILITY

CEEL-CO (1) MACHINE – 8' LENGTH DENVER, COLORADO

ZESTON (1) MACHINE – 7' LENGTH EDISON, NEW JERSEY

- MOLD DESIGN AND IN-HOUSE TESTING CAPABILITY AT ZESTON
- COULD DO PROTOTYPE DEVELOPMENT IN DENVER.

### JOHNS-MANVILLE HAS PHASE-IN MANUFACTURING CAPABILITY.

### JM CULTURE

## CULTURE POSITIVE ASPECTS

- GROWTH ORIENTED NON-FIBERGLASS
- STRONG PRODUCTION ORIENTATION
- GOOD CUSTOMER CONTACTS
- MARKETING CAPABILITY
- IN-HOUSE TESTING CAPABILITY
- GOOD KNOWLEDGE OF FIBERGLASS REINFORCEMENT
- GLOBAL REPUTATION

# CULTURE NEGATIVE ASPECTS

- FIBERGLASS INSULATION MENTALITY
- FIBERGLASS HEALTH CONCERNS
- MOST BUSINESS OVER MATURITY CURVE
- POOR TRACK RECORD WITH NEW PRODUCT
- MINIMUM INTER-DIVISION CORPORATION
- FOLLOWERS NOT LEADERS
- RESISTANT TO CHANGE

## **REGULATORY**

## **REGULATORY SUMMARY**

- FIRE RESISTANCE NEED TO MEET CLASS C RATING
- WIND SHEAR IS NO PROBLEM FOR CURRENT CLOSET DESIGN

## **MODEL BUILDING CONCERNS**

- FIRE RESISTANCE
- WIND SHEAR

# MODEL BUILDING CODES FIRE – RESISTIVE STANDARDS INTERIOR WALL AND CEILING FINISH

### **REQUIREMENTS**

OCCUPANCY FLAME SPREAD INDEX SMOKE DENSITY

R-1 HOTEL & 200 MAX 450 MAX

**APARTMENTS** 

R-3 DWELLING & 200 MAX 450 MAX

**LODGING HOUSES** 

### **CLASS "C" RATING REQUIRED**

CLOSETS NEED TO MEET LEAST STRINGENT FIRE RESISTIVE STANDARD.

## **WIND SHEAR**

- CODES REQUIRE BRACING ON EITHER EXTERIOR OR INTERIOR WALLS
- BRACING DOES NOT INTERFERE WITH CLOSET CONSTRUCTION
- CLOSET IS NON-LOAD BEARING CONSTRUCTION AND DOES NOT HAVE TO MEET THIS REQUIREMENT

WIND SHEAR IS NO PROBLEM FOR CURRENT CLOSET DESIGN.

## **COMPETITION**

## **POSSIBLE COMPETITORS**

<u>PRIMARY</u>

MANUFACTURINGMANUFACTURINGTHREATCATEGORIESPROCESSPROBABILITY

HAND LAY-UP, SPRAY-UP

BATH TUBS & COMPRESSION MOLDING

SHOWERS - SMC HIGH

HIGH

PERFORMANCE HAND LAY-UP, SPRAY-UP FIBERGLASS/PLASTIC COMPRESSION MOLDING

COMPOSITES - SMC HIGH

COMMODITY VACUUM FORMING HIGH PLASTICS INJECTION MOLDING LOW

**PULTRUDED** 

PLASTICS PULTRUSION LOW

MOLDABLE WOOD EXTRUSION LOW

FIBERGLASS DOORS COMPRESSION MOLDING MODERATE

## **COMPETITIVE ANALYSIS**

#### HAND LAY-UP / SPRAY-UP

#### **COMPETITOR STRENGTHS**

- LOCATED NEAR MAJOR MARKETS
- LOW CAPITAL COSTS
- LOW TOOLING COSTS
- MAXIMUM DESIGN FLEXIBILITY
- VARIETY OF COLORS AND DECORATIVE FINISHES
- SUITABLE FOR PROTOTYPING & SCALE UP

#### **COMPETITOR WEAKNESSES**

- LABOR INTENSIVE
- PRODUCT QUALITY DEPENDENT ON OPERATOR SKILL
- APPEARANCE SURFACE-1 SIDE ONLY
- LIMITED SHAPES
- -VOLATILE CHEMICAL EMISSION FROM RESIN SYSTEM
- LOW PRODUCTION RATES
- HEAVY PRODUCT WEIGHT
- POOR FINANCED
- HIGH PRODUCT COST
- TRUCKING RESTRICTIONS

BATH TUBS & SHOWERS (HESSCO, KIMSTOCK, AQUA GLASS, GOLDEN SHIELD)

## COMPETITOR STRENGTHS SAME AS ABOVE PLUS-

- BUILDER CONTACTS
- PROVIDE INSTALLED SALES

## COMPETITOR WEAKNESSES SAME AS ABOVE PLUS-

- POOR DISTRIBUTION NETWORK

## COMPETITIVE ANALYSIS CONTINUED

#### **COMPRESSION MOLDING - SMC**

#### **COMPETITOR STRENGTHS**

- HIGH VOLUME PRODUCTION
- PRODUCT QUALITY
- LOW PRODUCT COST
- EXCELLENT SURFACE FINISH

#### **COMPETITOR WEAKNESSES**

- HIGH TOOL COSTS
- MAJOR CAPITAL INVESTMENT
- EXPENSIVE TO PROTOTYPE PARTS
- MOST LOCATED IN MIDWEST
- AUTOMOTIVE ORIENTED
- NO DISTRIBUTION NETWORK FOR CONSTRUCTION PRODS
- REQUIRES HEATED MOLDS

BATH TUBS & SHOWERS (STERLING DIVISION - KOHLER)

#### **COMPETITOR STRENGTHS**

#### **SAME AS ABOVE PLUS**

- KNOWLEDGE OF BUILDER
- EXCELLENT CAPITAL RESOURCES
- NATIONAL REPUTATION
- GOOD DISTRIBUTION NETWORK

## COMPETITOR WEAKNESSES SAME AS ABOVE PLUS

- ALABAMA LOCATION ONLY
- DOES NOT PROVIDE INSTALLED SALES

## COMPETITIVE ANALYSIS CONTINUED

## FIBERGLASS DOORS (THERMA-TRU)

#### **COMPETITOR STRENGTHS**

- SOME KNOWLEDGE OF MAJOR BUILDERS

#### **COMPETITOR WEAKNESSES**

- MIDWEST LOCATION ONLY
- RECENTLY ENTERED BUILDER MARKET

#### **VACUUM FORMING**

#### **COMPETITOR STRENGTHS**

- LOCATED NEAR MAJOR MARKETS
- LOW CAPITAL COSTS
- LOW TOOLING COSTS
- EXCELLENT SURFACE FINISH
- MAXIMUM DESIGN FLEXABILITY
- PRODUCT QUALITY
- SUITABLE FOR PROTOTYPING
- LOW PRODUCT COST
- LIGHT WEIGHT
- GOOD PROCESS FLEXABILITY

#### **COMPETITOR WEAKNESSES**

- POOR MARKETING CAPABILITY
- OEM ORIENTED
- POOR DISTRIBUTION NETWORK
- LITTLE BUILDER KNOWLEDGE
- MODERATE CAPITAL RESOURCES

## **PROFITABILITY**

## KEY ITEMS IMPACTING PROFITABILITY

- FINAL CLOSET DESIGN CONFIGURATION
- MATERIAL SELECTION
- PART THICKNESS
- CYCLE TIMES
- SELLING PRICE

## **ISORCA ESTIMATED PRODUCT COSTS**

VACUUM FOAMING \$70 - \$80 PER UNIT

(5 FOOT CLOSET SHELL)

## **PROFITABILITY ESTIMATE**

- ISORCA ROUGH ESTIMATE INDICATES CLOSET COULD BE PROFITABLE
- UNTIL KEY ITEMS ARE KNOWN, DIFFICULT TO ACCURATELY PREDICT PROFITABILITY

## **RISK ANALYSIS**

- STRENGTHS AND WEAKNESSES
- OPPORTUNITIES AND THREATS
- KEY ISSUES
- HOW JOHNS-MANVILLE WINS

### **JOHNS-MANVILLE STRENGTHS**

- EARLY CLOSET LEAD
- ENHANCEMENT IDEAS
  - ORGANIZERS
  - LIGHTING OPTIONS
  - STORAGE CENTERS
- JOHNS-MANVILLE NAME
- MARKETING CAPABILITY
- INDUSTRY CONTACTS AND KNOWLEDGE
- EXISTING CONTRACTOR CHANNEL
- CAPITAL TO INVEST
- STRONG PRODUCTION ORIENTATION
- JOHNS-MANVILLE TRUCKING FLEET

## **JOHNS-MANVILLE WEAKNESSES**

- POOR TRACK RECORD WITH NEW PRODUCTS
- FIBERGLASS INSULATION MENTALITY
- IMPATIENCE WITH SMALL BUSINESS
- POOR SPECIFICATION CONTACTS
- NO BENCH STRENGTH MANPOWER
- COMMODITY ORIENTATION

## **OPPORTUNITIES**

- HUGH GROWTH POTENTIAL
- RAPID GROWTH OF PLASTIC LAMINATES
- PARTNER TO DOUBLE INSULATON CONTRACTOR SALES
- MAY USE SOME RECYCLABLE PLASTICS
- TREND TOWARD LIVEABLE SPACE RATHER THAN MORE SPACE
- GLOBAL ORIENTATION THROUGH WORLDWIDE CONTACTS
- VERTICAL INTEGRATION
  - FORMULATE OWN RESIN
  - VACUUM FORM COMPONENTS
- POSSIBLE DESIGN PATENTS TO RETARD COMPETITION
- SPREAD OVERHEAD OVER BRAODER SALES BASE
- COULD RELATE TO SATELLITE PRODUCTON CONCEPT

## **THREATS**

- CURRENT LIMITED PATENT PROTECTION
- POTENTIAL PRICE VOLATILITY OF RESINS
- POSSIBLE CONSTRAINTS OF RESIN AVAILABILITY
- LOW ENTRY BARRIERS
- POSSIBLE INTER-DIVISION CONFLICT
  - CUSTOMERS
  - MANUFACTURING PROCESS

### **KEY ISSUES**

- PROCESS CAPABILITY
- BUILDER AND CONSUMER ACCEPTANCE OF SECTIONAL DESIGN
- ACTUAL COST VERSUS PERCEIVED VALUE
- LOW ENTRY BARRIERS IF LIMITED PATENT PROTECTION
- INSTALLED SALES CAPABILITY
- CHANNELS OF DISTRIBUTION
- ORGANIZATION
- MAINTAIN COMPETITIVE ADVANTAGE
- HART ARRANGEMENT WITH JM

## **HOW JOHNS-MANVILLE WINS**

- INNOVATIVE CLOSET DESIGNS
- FURTHER DESIGN PATENT PROTECTION
- MACHINERY PHASE-IN POTENTIAL
- MARKETING CAPABILITY
- NETWORK OF INSTALLERS
- SERVICE NETWORK
- LOCK IN MAJOR BUILDERS EARLY
- ISORCA ASSISTANCE
- RAPID DEVELOPMENT OF ENHANCEMENT IDEAS
- SATELLITE CONCEPT

## RECOMMENDATIONS

## **MAJOR RECOMMENDATIONS**

- CONTINUE PROJECT
- PROCEED IN PHASES
  - LIMIT DOWN SIDE RISK
  - LIMIT FUNDING TO PERFORMANCE
- DISCONTINUE PROGRAM IF MILESTONE CRITERIA NOT MET
- SATELLITE CONCEPT

PROJECT HAS A GREAT DEAL OF MERIT.

THERE'S STILL MUCH WORK TO DO.

NEED YOUR APPROVAL ON

INTERIM STEP.

## PHASE I – DESIGN DEVELOPMENT

- FINALIZE INITIAL DESIGN CONCEPT
- DEVELOP DESIGN AND MOCK-UP
- DETERMINE MATERIAL SELECTION
- ESTIMATE PROTOTYPE COST
- CALCULATE PROFITABILITY
- PROGRAM REVIEW GO / NO GO

ESTIMATED COST: \$90,000

TIME FRAME: 3 MONTHS

## **PHASE II – PROTOTYPE PARTS**

- DESIGN MOLDS
- PRODUCE PROTOTYPE PARTS
- IN-HOUSE PHYSICAL TESTING OF PROTOTYPE PARTS
- PROGRAM REVIEW GO / NO GO

ESTIMATED COST: \$60,000

TIME FRAME: 2 - 3 MONTHS

## PHASE III – FIELD TEST

- SELECT AND TRAIN INSULATION CONTRACTORS ON CLOSET INSTALLATON TECHNIQUES
- CONDUCT FIELD TEST IN CALIFORNIA
- EVALUATE FIELD TEST
- REFINE SALES VOLUME AND PROFITABILITY PROJECTIONS
- PROGRAM REVIEW GO / NO GO FOR COMMERCIALIZATION

ESTIMATED COST: \$50,000

TIME FRAME: 2 - 3 MONTHS

## **PHASE IV – COMMERCIALIZATION**

- IDENTIFY ORGANIZATION NEEDS
- DEVELOP INITIAL PRODUCTION PLAN
- DEVELOP PLANS FOR NATIONAL ROLL-OUT
- BEGIN WORK ON ENHANCEMENT IDEA

ESTIMATED COST: TO BE DETERMINED

TIME FRAME: TO BE DETERMINED