FlexForm TECHNOLOGIES

Molding the Future with

Natural Fiber Composites

Manufacturing

Plant Size:

Existing	9200	m^2
	(95,000	ft^2)

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On-site Laboratory & Prototyping

Available for Customer Use

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Quality

Registered:

- ISO/TS 16949:2002

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Flexform®
Natural Fiber Composites

- Kenaf
- Hemp
- Jute
  - Tossa
  - Mesta
- Polypropylene
  - Alternate polymers
    - Polyester
    - Nylon






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Product Line Up

- FlexForm® MT
- FlexForm® LD

Weights: 170 to 2400 grams/m^2

Widths: Up to 3.2m (10.5 feet)

- FlexForm® HD

Weights: 300 to 5000 grams/m^2

Widths: Up to 1.5m (5 feet)

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Product Benefits

- **Lamination**
  - In-mold bonding of cover materials and secondary attachments **without** adhesives
  - **NO** De-lamination, sag, or wrinkling
- **Match Metal Molding**
  - Consistency
  - Quality
- **Flame Retardant**
  - FMVSS 302

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Product Benefits

- **Acoustical**
  - Variable
- **Fastener Retention**
  - High Load Capability
    - screws, staples, rosettes, etc.
- **Dimensionally Stable**
  - Not Affected by Heat or Humidity

Product Benefits

- **Significantly Less Weight**
  - Improved fuel economy
  - Simplified handling
- **Recyclable**
  - Reuse of trim waste
  - $$ Savings $$
  - End-of-Life Recovery
- **Environmentally Friendly**
  - **NO** Harmful Chemicals
  - **NO** VOC Off-Gassing
  - Sustainable Resource

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Finished Component Costs

- **Savings over existing technologies**
  - Reduced capital investment
    - Processing equipment
    - Tooling
  - Reduced burden
    - Elimination of secondary operations
    - Elimination of costly adhesives
    - Lower cycle times

Focus Market

- Automotive, heavy truck, and commercial interior trim
  - Door panels
  - Load floors
  - Pillars
  - Quarter panels
  - Rear package trays
  - Trunk liners
  - Overhead systems

    (under development)

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Focus Market

New

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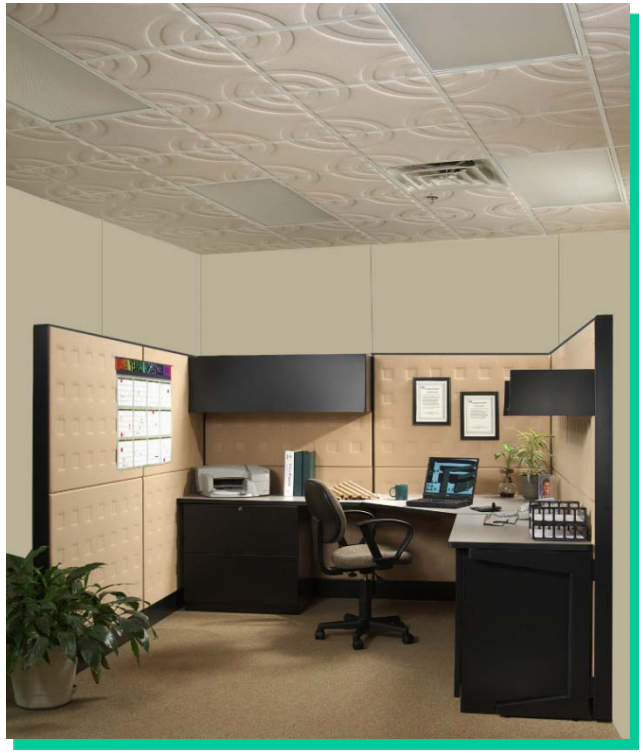
- Office interiors
  - Partition panels
  - Ceiling tiles

Meets ASTM E84 Class A Requirements for Flame Spread and Smoke Generation



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Market Objective

- To provide a natural fiber based alternative to the commonly used glass mat in office interior panel applications that has a ‘Class A’ fire rating and that is also a drop in replacement on existing systems.

Surface Burning Characteristics

- Specification
  - ASTM E84
- Class A Rating
  - Flame Spread Index = less then 20
  - Smoke Developed Index = 20

Product Benefits

- Tack-able
  - Superior wear characteristics
- Structural Strength
  - Potential to reduce steel content
  - No need for backside reinforcements
  - Reduced damage and associated warranty costs
- Fastener Retention
  - Staples, tacks, screws
  - Mounting fasteners, Direct Paper flow add-ons
- Near White or Natural color options
- Environmentally Friendly
  - Sustainable resource
  - No harmful off-gassing

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Expanded Markets

- Commercial Farm Equipment
- Absorbency Pads
- Non-Commercial Aircraft Interiors
- Erosion Control
- Cargo Boxes/Highway Trailers
- Carpet Cushion

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Future Value Added Processes

- Dry resinating for thermal set processing
  - High tensile modulus
  - High flexural modulus
- Pattern cut panels
  - Cutouts recycled
    - Customer reduced trim waste costs
  - Reduced finish materials

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