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Prepares its
PATENTED SMC PROCESS

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  - I. MONOLITHIC PANEL
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- BUSINESS MODEL
Acell Composite Panel
Made of 3 components

- 100% recyclable
- MONOLITHIC STRUCTURE
- VERY STRONG
- THERMALLY INSULATED
- LIGHT
- MANUFACTURED IN ONE SINGLE OPERATION

SMC

Acell foam

In Mould Powder coating
ACELL FOAM

- PHENOLIC BASED FOAM

- FORMULATED TO PROVIDE
  Fire / Acoustic /Security

- VARIABLE DENSITY
  From 70kg/m³ to 800kg/m³

- FIRE RESISTANT
  30 min and 60 min with a 45 mm thick panel

NO use of CFC or HCFC as blowing agent or VOC as release agent
SMC (Sheet Moulded Compound)

- Fibre reinforced Polyester skin
- SMC is moulded (using conventional process) to produce for example:

  - Car body parts
  - Engine parts
  - Truck body parts
1. Nickel Plated Aluminium
   Heated at 284 Fahrenheit

2. Apply PiMC
   (on Top and Bottom mould)

3. Locate Bottom SMC

4. Position the frame

5. Insert Acell Foam

6. Press and De-mould

Cycle Time per panel: 6 minutes
Process Know-How:

1. Aluminium mould
2. Display aggregates
3. Locate bottom SMC + Foam
4. Locate top SMC
5. Pressing
6. De-mould panel
ACELL PATENTED PROCESS AWARDED

1st Price BEST PROCESS
Compotec Italy  2008

2nd Price INNOVATION AWARD
JEC France  2009

1st Price BEST PROCESS
ACMA Fort Lauderdale USA  2011
Process Know-How: Process and facts on the current SMC moulding process

- SMC Material is pressed (High Pressure) and flows in the X and Y axis recovering the mould
- Heavy investment for Press (2,000 Metric ton) and Steel Mould
- Production of a skin only
Process Know-How:
Process and facts on the Acell Patented Monolithic SMC process

- No flow on the X & Y axis
- SMC is located flat on the mould
- Possible to use woven fabrics
- No abrasion on the mould which means that low cost high quality definition moulds can be used

- Lower investment for Press (120 Metric Ton) and Aluminium Mould
- Production of a complete monolithic panel
- Flexible production and short cycle time
Process Know-How
Surface finish:

With the Acell process a wide range of finishes is possible

Surface texture
(formed by the mould)

- Wood
- Marble
- Stone
- Slate
- Smooth

Surface colouring

- SMC + UV Stable scratch resistant PiMC coating
- Or SMC + Printed Veil
- Or SMC + Sand or aggregates
Process Know-How: Surface finishes

- Surface texture (formed by the mould)
- Wood finish mould
- PiMC coating + SMC
Surface texture
(formed by the mould)

Slate finish mould

PiMC coating + SMC
Process Know-How: Surface finishes

- Smooth finish mould
- Printed veil + SMC

Surface colouring
Process Know-How: Surface finishes

- Flat mould
- Natural sand + SMC

Surface with natural sand
Technology

Material Science

Process Know How

Moulding Expertise
Step 1: Acell use original materials such as Oak, Marble, Stone etc... to create the master

Step 2: GRP moulds are created

Step 3: Moulds are cast in Aluminium

Step 4: Moulds are nickel plated
Technology

Material Science

Process Know How

Moulding Expertise

PRODUCT APPLICATION
Product Application
Composite Doors:

- Structural
- Impact Resistant
- Thermally Insulated
  - Typical door ‘U-value’ 1.3 – 1.5
- Acoustically Insulated
- Thermally Stable
  - BRE tested – max 2mm distortion at 140 degrees Fahrenheit differential face temperatures (achieved best classification Class 3)
- Fire Resistant
  - 30 and 60 minutes fire resistance when tested to BS476 part 22
- Shaped and coloured in mould (not subsequently painted)
- Door size can be adjusted
Product Application
Slate Roof Panel:

- Structural
- Impact Resistant
- Thermally Insulated
- Acoustically Insulated
- Thermally Stable
- Fire Resistant
- Shaped and coloured in mould
Product Application
Wall cladding:

- Structural
- Impact Resistant
- Thermally Insulated
- Acoustically Insulated
- Thermally Stable
- Fire Resistant
- Shaped and coloured in mould
Product Application
Wall panel:

- Structural
- Impact Resistant
- Thermally Insulated
- Acoustically Insulated
- Thermally Stable
- Fire Resistant
- Shaped and coloured in mould
Wall Panel and joints resistance
80 mm Acell panel

✓ AIR & WATER Permeability
  • Highest Level 132 Mph wind

✓ Wind loading
  • Highest Level 204 Mph wind

✓ Hard body test
  • Highest Level

✓ Acoustic (40mm Acell-75mm Fibre-15 GB)
  • 52 db

✓ Insulation tailor made to specification
  • U=0.25 W/(m2K) or RT 4.82 m2 K/W
Thanking you for your attention

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