We, JAMES HARDIE BUILDING PRODUCTS PTY. LIMITED, a Company incorporated under the laws of the State of New South Wales, of 1450 Ferntree Gully Road, Knoxfield, Victoria, 3180, hereby apply for the grant of a Standard Patent for an invention entitled:

"A CASTING COMPOSITION"

which is described in the accompanying Provisional Specification.

Our address for service is: SHELSTON WATERS
55 Clarence Street
SYDNEY, N.S.W. 2000.

DATED this 13th day of October, 1986

JAMES HARDIE BUILDING PRODUCTS PTY. LIMITED

by Fellow Institute of Patent Attorneys of Australia
of SHELSTON WATERS

To: The Commissioner of Patents
WODEN A.C.T. 2606

File: D.B. 107J

Fee: $60.00
(NON-CONVENTION—Company)

FORM 7—REGULATION 12 (1)
COMMONWEALTH OF AUSTRALIA
PATENTS ACT, 1952-1973

DECLARATION IN SUPPORT OF AN APPLICATION FOR A PATENT.

(a) Here insert (in full) Name of Company.
   In support of the Application made by (a) JAMES HARDIE BUILDING PRODUCTS PTY. LIMITED

(b) Here insert Title of invention.
   (b) "A CASTING COMPOSITION"

(c) Here insert Full Name and Address of Compan Official authorised to make declaration.
   1. (c) JERRY ANTHONY KENRICK
   of... 39, ALLWOOD CRESCENT,
   LUGARNO, N.S.W. 2210.
   do solemnly and sincerely declare as follows:

   1. I am authorised by Applicant to make this declaration on its behalf.

   2. (d) TOM LIGGINS
   26 Vanbrook Street,
   Forest Hills, Victoria, 3131
   is/are the actual inventor(s) of the invention and the facts upon which Applicant is
   entitled to make the Application are as follows:

   Applicant is the Assignee of the said Inventor(s).

Declared at CAMPBELLTOWN, N.S.W. 2560.

this THIRTIETH day of SEPTEMBER 1986.

(e) Personal Signature of Declarant (c) (no seal, witness or legalisation).

To THE COMMISSIONER OF PATENTS.
Title
NON SHRINK CURABLE POLYESTER COMPOSITION

Claim
1. An unsaturated polyester casting composition
classified by the inclusion therein of one or more
components capable of reducing the curing shrinkage of
unsaturated polyesters, wherein said components are
dissolved in one or more crosslinking monomers, further
classified in that one of said monomers is styrene.

6. A method of reducing shrinkage of polyester casting
compositions comprising adding to said composition 35 to
57% by weight of the total polymer solutions, components
capable of reducing the curing shrinkage of unsaturated
polyesters, dissolved in one or more crosslinking
monomers, wherein one of said monomers is styrene, and
curing said composition at temperatures in the range of
25°C to 30°C.
COMMONWEALTH OF AUSTRALIA

FORM 10

PATENTS ACT 1952

COMPLETE SPECIFICATION

FOR OFFICE USE:

Application Number:
Lodged:

Complete Specification Lodged:
Accepted:
Published:

Name of Applicant: JAMES HARDIE BUILDING PRODUCTS PTY. LIMITED

Address of Applicant: 1450 Ferntree Gully Road, Knoxfield,
Victoria, 3180.

Actual Inventor: TOM LIGGINS

Address for Service: SHELSTON WATERS, 55 Clarence Street, Sydney

Complete Specification for the Invention entitled:
"A CASTING COMPOSITION"

The following statement is a full description of this invention,
including the best method of performing it known to me/us:-

Complete of Ph 08445 Dated 13.10.86

- 1 -
This invention relates to unsaturated polyester casting compositions.

Unsaturated polyester casting compositions are used extensively in the production of cast bathroom products and acrylic surfaced bathroom products reinforced on the back face with polyester compositions containing fillers and in many cases fiberglass roving reinforcements. In particular, unsaturated polyester casting compositions are used to produce bathroom products with appearances known as cultured marble and synthetic onyx.

Prior art casting compositions normally contain, in addition to the polyester resin, inhibitors, cure promoters, veining or mass-tone pigments, fillers and peroxide catalysts.

Polyester resins normally used to produce cast bathroom products in cultured marble or synthetic onyx are specially manufactured and selected for low colour and low unsaturation levels in the range 25 - 35%. This range of unsaturation provides an acceptable cure rate but low peak exotherms to avoid cracking in thick sections. The resins are usually supplied pre-promoted with promoter/accelerator combinations selected to provide low colour in the cured product.

Veining pigment pastes have limited compatibility with the polyester resin to minimise general diffusion of colour throughout the casting paste.

Fillers are chosen for high whiteness and controlled particle size distribution to provide low resin demand
but avoid filler settling before gelling of the resin. Low resin demand allows high filler contents which lower exothermic heat evolved on cure and reduce manufacturing costs. Blends of two or more particle size ranges are sometimes favoured. For veined opaque products, ground calcite or marble dust is generally used. To achieve the high level of translucency required in synthetic onyx, alumina trihydrates are used to provide a filler refractive index close to that of the polyester resin. Ground glass frits or small particle size glass spheres may also be used.

A number of peroxide catalysts may be used; methyl ethyl ketone peroxides, (M.E.K.P.) being generally preferred either alone or in combination with other peroxides which can be accelerated with cobalt soaps. Examples of other peroxides include modified acetyl acetone peroxide and combinations of M.E.K.P. with tertiary butylperbenzoate or tertiary butylperoctoate. The curing systems may also contain inhibitors to control and modify gel and cure times.

One known method of casting bathroom products using unsaturated polyester compositions is as follows.

A wax polished mould is coated with a polyvinyl alcohol release film and a clear gel coat sprayed onto the prepared surface and allowed to gel. A premixed backing paste is poured into the mould, which in the case of a hand-basin or vanity top is fitted with a shaped backing cap to allow the bowl to be shaped. The backing
cap may be a re-usable one coated with a release film or a thermoformed plastic or polyester cap intended to be a permanent component of the final product. The mould is placed on a vibration table and vibrated intermittently or continuously to release entrapped air up to the gel point. Mixing of the backing paste is normally done in low intensity dough mixers designed to minimise incorporation of air into the paste and which may be fitted with vacuum deaeration facilities. Polyester resin is added to the mixer, mixing started and any additional accelerator and/or co-promoter blended in. Fillers are added and mixing continued until the filler is thoroughly wetted out. Peroxide catalyst is added and mixing continued just long enough to allow uniform distribution of the peroxide before discharge into weighed portions suitable for casting a unit. At this stage any veining pigment pastes used are added using syringes or pointed rods, making a few passes through the paste just prior to filling the mould. Due to the well-known shrinkage characteristics of unsaturated polyester resins on curing, the cast product shrinks away from the mould surface and can be readily demoulded after reaching a suitable barcol hardness reading.

Polyester compositions cured at temperatures up to 30°C generally do not attain a full cure, residual styrene monomer contents on demould being normally in the range 4 - 6%. To achieve optimum physical and chemical properties, the products are normally given a post-cure
of several hours in a hot air oven or tunnel at temperatures of 80 – 100°C. During the post cure residual styrene is built into the polymer network by reaction with double bonds in the polyester resin. The cobalt soap/MEKP curing system is more efficient in reducing residual styrene than the benzoyl peroxide/amine curing system, the latter requiring longer times or higher temperature to achieve a comparable styrene reduction.

As noted above the prior art polyester casting compositions exhibit volume shrinkage on curing. This often results in the cast products formed from such compositions suffering from distortion and warping of surfaces intended to be flat or smooth.

Acrylic surfaced bathroom products reinforced on the back surface with cured unsaturated polyester compositions are produced in the following manner. The blank acrylic sheets are available in a range of self coloured products or in clear, transparent grades. For the production of shaped bathroom products the supported sheets are heated to 180 – 200°C to achieve a plastic state and then vacuum formed over a male former or mould. Some types of acrylic faced wall panels do not require vacuum forming of the acrylic sheet. After cooling, the preformed acrylic sheet is transferred to a supporting mould or structure ready for back reinforcement with an unsaturated polyester composition. The polyester composition may be similar to that previously described
for the production of gel coated, cast products or formulated for spraying by glass roving chopper gun units. Before application of the polyester resin composition, with or without glass fibre reinforcement, the rear face of the acrylic is cleaned with an air hose fitted with an antistatic device and supplied with dry, oil-free air. Styrene monomer in the polyester composition will attack and etch the acrylic surface before the onset of gelling, providing an adequate level of adhesion in those products which are not completely back-filled. To optimise adhesion in these products, they are allowed to cure for several hours at ambient temperatures before trimming and post curing.

Full colour acrylic shell bathroom products such as shower units, baths, spas, vanities and hand basins, reinforced on the back with glass fibre/polyester resin composites applied by chopper gun, resin spray-up methods, have already established widespread market acceptance. Their superiority over their gel coated counterparts is also well recognised, providing an excellent surface finish, more resistant to staining, longer service life and excellent weathering of outdoor spa units. For the manufacturer, since the acrylic shells provide the finished moulded surfaces they eliminate costly maintenance and repair schedules on a multiplicity of moulds followed by careful polishing and spraying of release films required to ensure easy release of similar gel coated mouldings. In addition, bathroom
products with similar appearance and weight to solid cultured marble or synthetic onyx have wide consumer appeal. The aesthetic appeal of veined opaque castings of cultured marble or the veined translucent castings of synthetic onyx can be combined with the advantages of an acrylic surface shell by back filling clear acrylic shells.

As in the case of cast bathroom products the volume shrinkage of unsaturated polyester casting compositions on curing creates difficulties for the production of back filled acrylic shell products. In particular, shrinkage of the cured polyester compound away from the acrylic shell spoils the visual appearance of the product and the unsupported areas of acrylic shell are easily damaged in finishing operations and in service.

Methods are known which have been devised to achieve improved adhesion of the polyester composition to the acrylic sheet and overcome the problem of curing shrinkage in fully back-filled products. One method mechanically abrades the surface of the acrylic sheet, e.g. by sandblasting but this destroys the aesthetic appeal of a clear, transparent sheet.

Another method utilises a laborious multiple pour process which first applies a compounded, pigmented polyvinyl ester resin as a bonding layer which is then allowed to gel. A further layer of polyester compound containing veining pigments is then applied and allowed to gel. Finally one or more further layers of filled,
fibre reinforced polyester compound are poured into the acrylic shell to complete the backfilling operation. A normal post curing treatment in a hot air oven is then used to complete curing. Careful timing control is required to ensure proper bonding between the various layers. In addition the several steps required are time consuming and therefore increase production costs.

Chemical additives have also been suggested to improve bonding between acrylic shells and casting compositions. These include a number of organic solvents which are known and used for cement bonding of acrylic products such as methyl methacrylate monomer, methylene chloride, chloroform, glacial acetic acid and acetone. Chlorinated solvents and acetone are known to attack and break down cured polyester compounds, reducing their mechanical properties. Other known solvents are considered environmentally undesirable as are chlorinated solvents.

The addition of a variety of polymers to sheet moulding compounds (SMC) and bulk moulding compounds (BMC) used in hot press moulding to reduce or eliminate mould shrinkage on curing is known. These polymers, either in the form of micronised solids or solutions in an unsaturated, cross-linkable monomer such as styrene are generally referred to as low profile additives. The low profile additives used in SMC/BMC technology have all suffered from one or more disadvantages. To achieve zero shrink mouldings up to 40% or more of the polyester resin...
solution must be replaced by solutions of low profile additives which accentuates any problems emanating from use of a particular low profile additive. Polystyrenes and S.B.R. type elastomers have poor compatibility with unsaturated polyester solutions and rapidly phase out to form surface layers. This necessitates continuous mixing of SMC/BMC pastes prior to addition of metal oxide/hydroxide thickeners and combination with glass fibre reinforcements. Whilst polyvinyl acetates have good compatibility and provide good shrinkage control, they have poor pigmentability, causing separation and mottling of colours in finished mouldings. Their use is generally confined to products which are subsequently painted. Other low profile additives having good compatibility and shrinkage control generally show poor, or at best fair pigmentability.

Hitherto, attempts to use a wide range of low profile additives in unsaturated polyester casting compositions to eliminate shrinkage have been unsuccessful due to the low profile additive phasing out to form a separate top layer before gelling of the polyester locks it into a dispersed form throughout the polyester matrix.

It is an object of this invention to provide an unsaturated polyester casting composition which will overcome the problems of volume shrinkage on curing.

It is a further object of this invention to provide an unsaturated polyester casting composition with
improved adhesion to acrylic shells.

The invention is based on the discovery of low profile additives which have sufficient compatibility with unsaturated polyester resin casting compositions and which effectively control volume shrinkage on curing. The control of volume shrinkage on curing overcomes the difficulties of warping and distortion of cast bathroom products and the difficulty of shrinkage of the casting composition away from the acrylic shell in backfilled acrylic shell products.

It has also been found that the inclusion of an acrylic solvent in the unsaturated polyester casting composition improves the adhesion of the composition to an acrylic shell.

Accordingly, the present invention comprises an unsaturated polyester casting composition characterised by the inclusion therein of one or more components capable of reducing the curing shrinkage of unsaturated polyesters, wherein said components are dissolved in one or more crosslinking monomers, further characterised in that one of said monomers is styrene.

A preferred casting composition according to this invention is produced by introducing into an unsaturated polyester casting composition a low profile additive comprising an ethylene-vinyl acetate elastomer known as Levapren 450 dissolved in a styrene monomer.

Levapren 450 is manufactured by Bayer AG, Leverkusen, West Germany. The low profile additive
preferably comprises a solution of 25 weight percent of Levapren 450 dissolved in styrene monomer.

This preferred casting composition has been found to have substantially zero volume shrinkage on curing and to produce a product with good impact resistance. This first composition is particularly suitable for producing products with either a marble or onyx appearance.

A second preferred casting composition according to this invention is produced by introducing into an unsaturated polyester casting composition a low profile additive comprising a polypropylene adipate ester known as KEM 407468.

KEM 407468 is an approximately 80% ester solution in styrene marketed by Kemrez Chemicals, Cheltenham, Victoria, Australia.

This second casting composition has also been found to have substantially zero volume shrinkage on curing and is suitable for producing products with either a cultured marble or an onyx appearance.

A further low profile additive which may be used in the composition of the present invention is polymethylmethacrylate.

Further compositions according to this invention are produced by introducing into an unsaturated polyester casting composition a low profile additive comprising mixtures of Levapren 450 with either KEM 407468 or polymethylmethacrylate or both. These compositions can be formulated to have substantially zero volume shrinkage.
on curing and are suitable for producing products having either a veined marble or onyx appearance.

Although the desired translucency in simulated onyx products can be achieved with either KEM407468 or polymethylmethacrylate they do not produce the improved impact resistance shown by the elastomeric Levapren 450. An improved balance of translucency and impact resistance therefore is achieved in mixed low profile additives by using Levapren 450 as the major proportion preferably in combinations with solutions of polypropylene adipate or polymethyl methacrylates.

For preference, the low profile additive solutions comprise between 35 and 57% by weight of total polymer solution.

Also for preference, the casting compositions according to this invention are cured at temperatures within the range 25°C to 30°C to further reduce volume shrinkage.

It is further preferred that an acrylic solvent is added to the casting compositions of this invention in an amount within the range of 0.5 to 1.5% of the total composition to improve the adhesion of the composition to an acrylic shell.

Propylene glycol ether esters have been found particularly suitable for this purpose. One suitable solvent is Corsol PGMA (Methoxy Propyl Acetate) marketed by C.S.R. Chemicals Australia.
The unsaturated polyester resins used in compositions according to this invention can be any suitable known resin.

It will be appreciated that the casting compositions according to this invention which have substantially zero volume shrinkage on curing can be used to produce improved cast bathroom products since warping and distortion is reduced or eliminated.

Further, the casting compositions according hereto are particularly suited to the production of backfilled acrylic shell products since the difficulties caused by volume shrinkage on curing are substantially eliminated. In particular a backfilled acrylic shell product can, using casting compositions according to this invention, be formed in a single pouring operation.

A preferred composition including an acrylic solvent to improve adhesion with the acrylic shell further improves the product.

The following two Examples serve to illustrate casting compositions according to this invention without limiting the scope thereof.
Example 1
Acrylic Face, Cultured Marble Backfill

<table>
<thead>
<tr>
<th>Component</th>
<th>Parts by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anzopol Resin 329-90115</td>
<td>60.000</td>
</tr>
<tr>
<td>25% Levapren 450 solution</td>
<td>40.000</td>
</tr>
<tr>
<td>6% Cobalt Octoate</td>
<td>0.050</td>
</tr>
<tr>
<td>15% Potassium Octoate</td>
<td>0.120</td>
</tr>
<tr>
<td>Corsol PGMA</td>
<td>0.600</td>
</tr>
<tr>
<td>Calcite, Omyacarb 40</td>
<td>200.000</td>
</tr>
<tr>
<td>MEKP, NA1</td>
<td>1.500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>302.270</strong></td>
</tr>
</tbody>
</table>

Example 2
Acrylic Face, Synthetic Onyx Backfill

<table>
<thead>
<tr>
<th>Component</th>
<th>Parts by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crystic Resin, 571PA</td>
<td>65.0</td>
</tr>
<tr>
<td>25% Levapren 450 Solution</td>
<td>25.0</td>
</tr>
<tr>
<td>KEM 407468</td>
<td>10.0</td>
</tr>
<tr>
<td>Alumina Trihydrate, E1000</td>
<td>50.0</td>
</tr>
<tr>
<td>Alumina Trihydrate, Higilite 320</td>
<td>50.0</td>
</tr>
<tr>
<td>MEKP, QC</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>202.5</strong></td>
</tr>
</tbody>
</table>

The fillers used in the compositions are not restricted to the use of ground calcites or precipitated calcium carbonates or to the use of alumina trihydrates. This applies particularly to compositions used to backfill full color thermoplastic surface shells. The copolymerisable monomers used in the...
polyester resins and low profile additives are not restricted solely to styrene but could consist of blends of styrene with methyl methacrylate, vinyl toluene or diallyl phthalate monomer.

The established techniques used in the production of cast polyester products and back reinforced acrylic products which has been described above may be utilised in conjunction with the compositions according to the invention.

Further examples of compositions of the present invention giving an onyx type finish are illustrated in Tables 1 and 2.
## TABLE 1

EXAMPLES OF SYNTHETIC ONYX CASTING COMPOSITIONS BASED ON HIGH REACTIVITY SMC RESIN

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>PARTS BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>75% Unsaturation SMC Resin, Code No. 61-145</td>
<td>60 60 60 60 60 60</td>
</tr>
<tr>
<td>25% Levapren 450 solution</td>
<td>40 40 40 40 40 40</td>
</tr>
<tr>
<td>COBALT OCTOATE SOLUTION, 6% METAL</td>
<td>0.1 0.1 0.1 0.1 0.1 0.1</td>
</tr>
<tr>
<td>POTASSIUM OCTOATE SOLUTION, 15% METAL</td>
<td>0.3 1.0 0.3 0.3</td>
</tr>
<tr>
<td>CALCIUM OCTOATE SOLUTION, 5% METAL</td>
<td>2.5 1.0</td>
</tr>
<tr>
<td>ZIRCONIUM OCTOATE SOLUTION, 6% METAL</td>
<td>1.0 0.3 0.5</td>
</tr>
<tr>
<td>80% ACTIVE QUATERNARY AMMONIUM CHLORIDE</td>
<td>0.2 0.5 0.5 0.5 0.5 0.5</td>
</tr>
<tr>
<td>ALUMINA TRIHYDRATE, AVERAGE PARTICLE SIZE 45um</td>
<td>100 100 50 80 80 80</td>
</tr>
<tr>
<td>GLASS FRIT. FERYX</td>
<td>50 20 20 20 20</td>
</tr>
<tr>
<td>CORSOL PGMA</td>
<td>0.6 0.6 0.6 0.6 0.6 0.6</td>
</tr>
<tr>
<td>VEINING PIGMENT</td>
<td>0.5 0.5 0.5 0.5 0.5 0.5</td>
</tr>
<tr>
<td>MEKP</td>
<td>2 2 2 2 2 2</td>
</tr>
<tr>
<td>GEL TIME, MINUTES</td>
<td>59 57 20 23 38 29</td>
</tr>
</tbody>
</table>
### Table 2

**Examples of Synthetic Onyx Casting Compositions Based on Industry Casting Resins**

<table>
<thead>
<tr>
<th>Component</th>
<th>Parts by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>HATRICK CASTING RESIN 61-294</td>
<td>60 60 60 60 60 60 65 65</td>
</tr>
<tr>
<td>ANZOL CASTING RESIN 311-9882</td>
<td>40 40 20 20 40 25 25 25 25</td>
</tr>
<tr>
<td>25% LEVAPREN 450 SOLUTION</td>
<td>40 40 20 20 40 25 25 25 25</td>
</tr>
<tr>
<td>33% POLYMETHYL METHACRYLATE SOLUTION</td>
<td>20 20 20 10 10 10 10</td>
</tr>
<tr>
<td>(polymethyl Methacrylate, Melt Flow Index 29gm/10min)</td>
<td></td>
</tr>
<tr>
<td>80% ACTIVE QUATERNARY AMMONIUM CHLORIDE</td>
<td>0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5</td>
</tr>
<tr>
<td>CALCUIM OCTOATE SOLUTION, 5% METAL</td>
<td>1.6 0.8 1.6 1.2 1.2 1.2 1.2 1.2 1.2 0.8 0.8</td>
</tr>
<tr>
<td>ALUMINA TRIHYDRATE, AVERAGE PARTICLE SIZE 45µm</td>
<td>100 100 100</td>
</tr>
<tr>
<td>ALUMINA TRIHYDRATE, AVERAGE PARTICLE SIZE 15µm</td>
<td></td>
</tr>
<tr>
<td>ALUMINA TRIHYDRATE, AVERAGE PARTICLE SIZE 150µm</td>
<td>100</td>
</tr>
<tr>
<td>ALUMINA TRIHYDRATE, AVERAGE PARTICLE SIZE 75µm</td>
<td>100 240 240</td>
</tr>
</tbody>
</table>
cont. Table 2

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>PARTS BY WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>WETTING AGENT, BYK U960</td>
<td>2 2 1.8 1.8</td>
</tr>
<tr>
<td>CORSOL PGMA</td>
<td>0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6</td>
</tr>
<tr>
<td>VEINING PIGMENT</td>
<td>0.5 0.5 0.5 0.5 0.5 0.5 0.5 0.5</td>
</tr>
<tr>
<td>M.E.K.P.</td>
<td>2 2 2 2 2 2 2 2 2</td>
</tr>
<tr>
<td>GEL TIME, MINUTES</td>
<td>10 31 15 14 15 18 17 14 12 30 20</td>
</tr>
</tbody>
</table>
CLAIMS
THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. An unsaturated polyester casting composition characterized by the inclusion therein of one or more components capable of reducing the curing shrinkage of unsaturated polyesters, wherein said components are dissolved in one or more crosslinking monomers, further characterized in that one of said monomers is styrene.

2. A casting composition according to claim 1 wherein the components capable of reducing the curing shrinkage of unsaturated polyesters are selected from ethylene-vinyl acetate elastomers, polypropylene adipate esters, polymethylmethacrylate, and mixtures thereof.

3. A casting composition according to claim 2 wherein the ethylene-vinyl acetate elastomer is Levapren 450 (RTM) and the polypropylene adipate ester is KEM 407468 (RTM).

4. A casting composition according to any one of claims 1 to 3 wherein the solutions of components capable of reducing curing shrinkage comprise between 35 and 57% by weight of the total polymer solution.

5. A composition according to any one of claims 1 to 4 wherein the composition further comprises an acrylic solvent in an amount between 0.5 and 1.5 weight % of the total composition.

6. A method of reducing shrinkage of polyester casting compositions comprising adding to said composition 35 to 57% by weight of the total polymer solutions, components capable of reducing the curing shrinkage of unsaturated polyesters, dissolved in one or more crosslinking
monomers, wherein one of said monomers is styrene, and
curing said composition at temperatures in the range of
25°C to 30°C.

7. A method according to claim 6 wherein an acrylic
solvent is added to said composition in an amount between
0.5 and 1.5% by wt of the total composition.

8. Cast products produced from the composition defined
by any one of claims 1 to 5.

9. Cast products produced by the method defined by
either one of claims 6 or 7.

DATED this 12th day of October, 1987

JAMES HARDIE BUILDING PRODUCTS PTY. LIMITED

Attorney: WILLIAM S. LLOYD

Fellow Institute of Patent Attorneys of Australia

of SHELSTON WATERS