Versatrim

Removable Wood Trim System

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versatrim

Simply Trimendous

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Abstract

Versatrim is a new and innovative way of attaching interior trim. The process consists of wood mouldings that are grooved out on the rear face in order to accept a plastic spline. The plastic splines are fastened to the wall using nails, screws or staples; the mouldings are then tapped onto this spline. Versatrim can work around doors, windows, crown mouldings and baseboards. The trim can be premitred, precut and prefinished. A variation of this, used with door frames in new home construction, is a parallel groove in the jamb, which an extrusion piece of plastic can be secured into, by a tap of a mallet. This stabilizes the door frame without the use of shims or nails. There are many advantages of Versatrim, including the following:

- trim can be removed and reapplied in a matter of seconds to make painting and wallpapering easier
- installation takes approximately one third of the time
- less skill is needed to install versatrim
- versatrim can be prefinished
- allows for hiding stereo and security wires behind the trim
- incorporated in the trim are design features to allow for attaching drop cloths, and gaskets to prevent heat loss.
- no unsightly nail holes to fill and sand.

Executive Summary

Versatrim is a revolutionary new trim product that has few similarities to the traditional method of trimming a house. Versatrim, consists of a plastic spline and moulding which makes it easy to install and remove trim. This brings tremendous advantages to the process of trimming; ease of painting or wallpapering, hiding of stereo wires etc. Because of the great paradigm shift, it was felt necessary to put the product through comprehensive testing to prove to the inventor, consumer and manufacturer, that Versatrim has tremendous advantages and few drawbacks. Testing was mainly done in the areas in which this new product differs from traditional trim i.e. it's attachment system; a plastic spline, and how this spline held the moulding under different conditions of humidity. Research was also done in the areas of prefinishing and precutting of the product before it reaches the consumer. Considerable effort was put into demonstrating this product to key players in the Industry.

Through this process of experimentation, improvements were made on the original design, so much so, that further patents were necessary. Versatrim has succeeded in making a very simple process of a procedure that once demanded considerable knowledge and skill to accomplish properly.

Background Statement

The need to develop the very first prototype of Versatrim came as a result of an attempt to hide the unsightly holes that nails make in interior trim. From trying to disguise these marks to avoiding them, the development of this spline and groove product was initiated. The first reason for the invention is now insignificant in the magnitude of other benefits that this process brings to the moulding market. [See Abstract section]. The Versatrim process has expanded considerably from its beginnings, as the method can be applied to baseboards, chair rail and crown mouldings. The product would be of benefit in new home construction and home renovations. At the Canadian Home / Hardware / Housewares Trade Show Versatrim received considerable interest from hardware store owners, specialty shops, small contractors and major lumber distributors

Objectives

1] To determine the effects of humidity on the force needed to attach and remove Versatrim.

2] To find the optimum shape and size of the spline and groove.

3] To demonstrate this product to key people in the industry.

4] To monitor Versatrim's effectiveness to perform in the traditional manner but with the added advantages.

5] To investigate product finishing techniques.

6] To find a computer program that can determine the precut lengths of moulding. Appendix F]

Description of the System

Versatrim consists of various mouldings in a variety of woods which have been installed on different shapes of splines. Refer to pictures and slides that have been submitted. [Appendices A and B].

Résumé

Versatrim est une nouvelle boiserie révolutionnaire qui a peu de choses en commun avec la méthode traditionnelle de pose des boiseries dans une maison. *Versatrim* est constitué d'un profilé plastique et d'une moulure facile à poser et à enlever. Ce produit offre des avantages considérables pour la pose des boiseries. Il facilite l'application de peinture ou de papier peint, permet de dissimuler les fils d'une chaîne stéréophonique, etc. Étant donné le caractère hautement novateur du produit, on a cru bon de lui faire subir une batterie de tests afin de prouver à l'inventeur, au consommateur et au fabricant que *Versatrim* possédait d'importants avantages et peu d'inconvénients. Les essais ont surtout porté sur les aspects de ce produit qui diffèrent des produits traditionnels, c'est-à-dire son mode de fixation, un profilé plastique, ainsi que la façon dont ce profilé retient la moulure dans différentes conditions d'humidité. La recherche a également porté sur la finition et la coupe du produit avant sa distribution au consommateur. Des efforts considérables ont été consacrés à la démonstration de ce produit aux intervenants clés de l'industrie.

Tout au long du processus d'expérimentation, des améliorations ont dû être apportées au concept original, tellement en fait qu'il a fallu obtenir de nouveaux brevets. *Versatrim* réussit à rendre très simple un processus dont l'exécution appropriée exige des connaissances et des aptitudes considérables.

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Detailed Description of the Work

Shaper cutters were manufactured in order to make the necessary profile in the back of the mouldings. These cutters were designed to provide adjustability so the width of the grooves in the back of the mouldings could be altered. This was done by the addition or deletion of shims. Some of these shims were made as thin as one thousandth of an inch. Time was spent cutting the moulding's back profile before reaching a starting point acceptable for testing the force needed to attach and remove the mouldings. Other cutters were made to cut the front profile. Then both sides of the trim were moulded. This was done in oak first, as this species tends to be affected most by changes in humidity. Then other types of wood were used to determine if the different woods gave different results. Testing occurred in the following areas:

- The moisture content of the wood was measured, as well as the humidity levels in the air where the mouldings were installed. Further testing is also required to determine what effect applying a finish to both sides of the moulding would have on stabilizing the moisture content of the wood.
- Several different plastic splines were designed to better hold the rear face of the mouldings.
- Methods of holding the miters together have been experimented with and an excellent procedure has recently been invented that makes the mouldings fit tightly together.
- Modifications have been made to the baseboard process but this process is not ready for market yet. In discussions with a patent attorney, it was decided that a new patent would have to be filed to cover the Versatrim baseboard method more thoroughly.

Analysis of Collected Data

Objective #1 To determine the effects of humidity on the force needed to attach and remove Versatrim.

One of the most important aspects of the testing was the affect of humidity on this product. Attaching and removal of Versatrim always works well, but more force is required under high humidity conditions and less force under low humidity conditions. After experimentation it was realized why the original design accommodated humidity changes. An explanation of humidity and its effects on wood is now in order to understand the conclusions of the test data.

During the process of drying the wood, eventually a fluctuating moisture balance between the dryness of the wood and the humidity of its environment will be reached. Wood therefore has to be preshrunk to a moisture content consistent with the humidity within a house. There is a need to control any subsequent gain or loss of moisture in order to minimize dimensional change. In short, the atmospheric humidity determines the moisture content of the wood, and the moisture content, in turn, determines the dimension of the wood. Relative humidity is the ratio of the amount of moisture in the air at a certain temperature to the amount it would be able to hold at that temperature. Nature determines our atmospheric humidity. In buildings we routinely manipulate nature's air, either by heating it up or cooling it down, and sometimes by adding or subtracting moisture from it. It is important to realize the effect of our heating or cooling air without accompanying humidification or dehumidification. Heating air increases its ability to hold moisture. In subzero winter weather, outdoor air has a lower humidity as it seeps into homes. Conversely, summer air usually holds an abundance of moisture because of its high temperature. If the air is cooled, thus reducing its capacity to hold moisture, the relative humidity rises even higher. Therefore, an extreme in humidity exists within houses between seasons. This is a concern for a product like Versatrim, as performance characteristics vary depending on the humidity. The design features of Versatrim which minimize the humidity effects will be discussed later. Wood will always respond to changes in atmospheric humidity. Changes in the dimensions of wood are much more pronounced in fiber-saturated wood i.e. green, as opposed to kiln dried wood. Seasonal extremes must be averaged. The low moisture conditions associated with winter, spring and fall weather seem to outweigh the effects of short-term, high-humidity summer extremes. Thus 7.5% to 8% range of moisture content of the air is appropriate. Most wood is kiln dried to between 6% and 8% moisture content. This is the moisture content at which mouldings are manufactured. Further discussion of testing will follow.

Dealing with modified wood products such as MDF [Medium Density Fiberboard], with the adhesives and other additives involved, as well as the heat applied in manufacturing, the equilibrium moisture content could be affected considerably. However, MDF varies very little compared with other woods and in the testing, it was found that there was virtually no dimensional changes over the humidity range tested. Therefore the performance of Versatrim was not

affected at all by these humidity changes. The wood that Versatrim was tested with was found to be between 9% and 9 1/2% moisture content. For testing, humidity was controlled by a dehumidifier, the humidity was brought down and then towards the end of the testing period allowed to go back up.

Because Versatrim can be prefinished, it would probably be 'shrink wrapped' in plastic for transportation. This would help prevent problems with humidity changes, as well this wrapping would hold the pieces of trim straight until installation. Many lumber bins in home building centers have trim that is crooked because of the way it is stored.

The next important point tested for Versatrim was the dimensional change in wood, due to humidity changes. The amount of movement varies according to the orientation of the wood cells and is usually measured separately in the three principal directions: tangential, radial and longitudinal. Longitudinal shrinkage in normal wood is considered negligible. Versatrim can be affected by both tangential and radial movement. Tangential shrinkage [perpendicular to the grain and parallel to growth rings] is always greater than radial [perpendicular to growth rings]. Versatrim is affected by a combination of tangential and radial shrinkage depending how the boards are originally cut from the tree. There is uneven shrinkage and swelling to deal with as well. For the most part this is due to defects in wood or improper storage while drying.

Usually mouldings are not affected by uneven shrinkage characteristics because only the best lumber is used in trim. As mentioned, Versatrim was affected by the quality and attempts to use damaged wood were not successful.

<u>Objective # 2</u> To find the optimum shape and size of the spline and groove.

An important observation noted during testing was the lack of variance in the groove size that fits over the spline protrusion. This was an unexpected benefit of the original design in which the groove width was made 3/8ths. of an inch. This was a good design feature as wood moves in relation to its size. Because the groove was designed to be narrow, it doesn't change to any great extent. In fact oak, which of all the woods tested, moves the most, only varied 8 thousandths of an inch, and MDF didn't move any measurable amount.

When the distance between the grooves was measured, it was found that there was a considerable amount more variance. Oak in this instance moved 20 thousandths of an inch. The design of the spline had to be changed considerably. The leg that sticks up from the spline was therefore altered so that it looks like a backwards 'c'. It has more flexibility in order to adjust to tolerance changes of machining or humidity. Another design feature being experimented with is a protrusion that is half the size of the one presently used so that the groove is half the size, and therefore this would keep the force required to attach

and remove the trim much more consistent. Having this groove half the size would also allow more room in the back of the trim to accommodate wires.

It was important to note how stable MDF is and how well suited it is for the Versatrim product. MDF is becoming common as a moulding material and is often being veneered with real wood so that it looks exactly like solid wood trim but with less costs and other desirable characteristics [less prone to humidity changes etc.] A characteristic of MDF that is not beneficial is that it's density causes nails to leave bumps in the surface of the trim. Versatrim is not affected by the dense nature of MDF as nails aren't driven through the trim. As well, some Canadian mouldings can be very thin and wouldn't work as well with Versatrim as a thicker moulding is required. With MDF, because it is a relatively inexpensive substrate, versatrim can be offered at a competitive price.
It was found that wood that is slightly on the dry side is better in the manufacture of Versatrim. As the humidity increases, the moulding grips the spline for a better hold. Moulding manufacturers now start with dry wood for traditional trim so this preference will suit the manufacturing of Versatrim very well.

From past experience, but needing further verification, coating both sides of the trim protects the wood against humidity effects and this should make Versatrim mouldings more stable.

Another aesthetic advantage Versatrim has, occurs when wood shrinks at the door miters. An unsightly gap appears over the doorway. When this happens, the side pieces of Versatrim can be taken off and just moved up to close the gap.

Objective #3 To demonstrate the product to key people in the industry.

Versatrim has been demonstrated to key people in the industry during and after the completion of CMHC testing. Through the Canadian Consulate General I was able to attend a marketing meeting of the Wood Moulding and Millwork Producers Association in North Carolina in August 1995. I have since become an associate member with this association. I was able to discuses the product with a number of CEO's of major American moulding companies. At this time Versatrim was viewed with some skepticism, however, I've kept in contact with a number of these executives and their response to the product is now more positive. In October, 1995 I attended the National Sash and Door Show in Boston, Massachusetts. There was a considerable amount of interest at this show and I was able to show a video of the product from the television series called "Today's Inventor" that aired September, 1995.

From the several new contacts I made there I am presently talking with a couple concerning distributing this product.

I was able to exhibit at the Canadian Housewares/Home Improvement/and Hardware Show in Toronto, February, 1996. At this time I had a new product

video running on display as well as regular demonstrations of Versatrim. A number of distributors showed interest in carrying the product but want more information on packaging and pricing of this product. Other people in the industry have been exposed to the product through local radio and newspaper articles. There has also been a feature in the Northern Ontario Business magazine that I have been interviewed for. [A copy of this is in the appendix H].

Objective # 4 To monitor Versatrim's effectiveness to perform in the traditional manner but with the added advantages.

Versatrim has been in my home in various forms for eight years. It has stood up to humidity changes and hundreds of attaching and removal demonstrations. Versatrim has also withstood severe humidity changes that occurred during transportation to the Toronto Trade Show. The product showed no wear and tear after being pulled off and put back on steadily, each day of this trade show.

Objective #5 To investigate product finishing techniques.

Versatrim can be prefinished in the factory as nails are not used on the trim or the surface of the trim defaced in any way. There is nothing needed to finish the trim after it leaves the factory, except to tap it in place.

Prefinishing eliminates many frustrating, time-consuming steps for the home owner and/or contractor. Such things as trying to hide or disguise nails, puttying and sanding. No more taping the walls, shielding the floor, applying stain or paint, sanding and then applying varathane. And doing all this from the uncomfortable position of bending, stretching, leaning. Therefore, the process to finish mouldings in the factory setting was investigated. The primary source of investigation for this process was at The International Woodworking Fair that I attended in Atlanta Georgia August 1994. Advanced technology does exists which can finish moulding fast and cost effectively.

Objective #6 To find a computer program that can determine the precut lengths of moulding.

Since Versatrim can come prefinished and since there are recognized problems with accurately cutting mouldings to the right length and at a perfect 45 degree angle, it will be an asset to be able to precut trim before delivery. To do so a computer program was needed to assist in determining the size of the mouldings. However, a very simple spread sheet was experimented with that, along with the inclusion of simple measurements, will determine the exact sizes to which the mouldings need to be cut. [An example of this type of spread sheet is included in the Appendix F].

Comparison of Versatrim and Traditional Trim

Wood mouldings have been an important architectural element for centuries. Mouldings add warmth and beauty to a room. They also are used to cover up rough surfaces while adding that elegant finishing touch. Versatrim does all of this but a whole lot more. Because of its removable nature it adds many features while staying securely on the wall until removed. Versatrim will cost approximately 25% more but the time- saving installation will more than compensate for this cost in labour savings.

Strengths, Weaknesses and Limitations of Versatrim

Strengths:

Versatrim's greatest strength is its removability:
- removable for painting
- removable for wallpapering
- removable for hiding stereo or security system wires
- removable for refinishing the mouldings

Versatrim can be Pre-Done:
- can be prefinished [no nail holes to ruin a perfect finish]
- can be pre-mitred and cut to length

Installation:
- doors can be installed in about half the time
- nails, screws or staples can be used to fasten the plastic spline

in new construction the doors no longer need shimming. The plastic spline, acting as a continuous contact between the jamb and the wall provided rigidity.

Weight:
- since Versatrim is routed out in the back, there is far less weight and therefore Versatrim is less expensive to ship

Weaknesses:

- Versatrim will cost approximately 25% more than traditional trim
- under high humidity conditions [as could be experience in humid countries] Versatrim could possibly fail to perform as it was designed. However, Versatrim could be manufactured for these countries by adjusting the rear profile to compensate for their weather conditions.
- crown mouldings have not been fully developed to hold up as well as the traditional method of nailing.
- there is real paradigm shift since mouldings have nailed up for centuries, therefore it will take an education process to make people realize that Versatrim stays on the wall just as well as traditional trim

Limitations:

Versatrim can not be made out of very thin wood and not all face profiles are possible, as the face profile may interfere with the rear profile, i.e. where the face profile inverts the rear profile may have to invert as well, to hold the plastic extrusion. Somewhat thicker profiles can avoid this problem.

Versatrim requires a substantial shift in the method of installation and contractors have to see the advantages of this system before they may be willing to make a change in their construction methods.

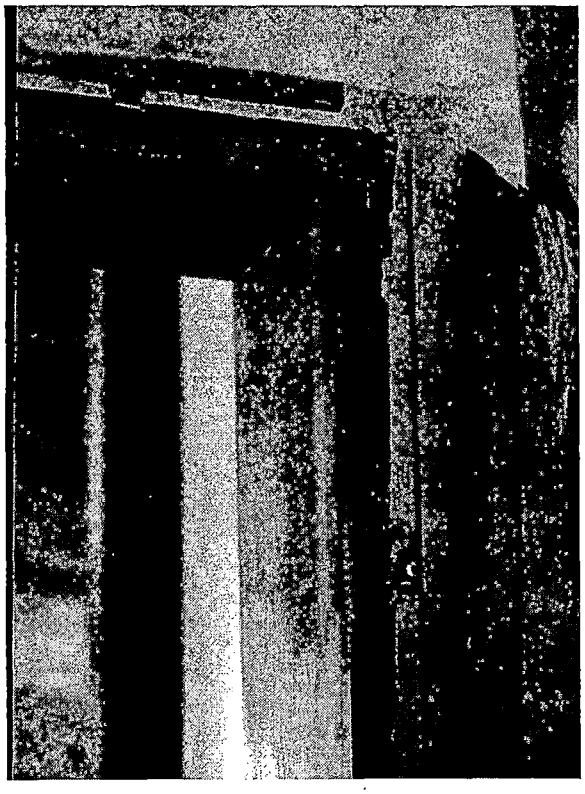
Conclusions:

In conclusion, the Versatrim process has been substantially improved due the funding provided by CMHC under its HITP program. Initially there were unknowns and limitations to this method. But Versatrim has proven itself to be reliable and to perform as well as traditional trim but with all the added benefits.. The consumer is ready for this paradigm shift to a more convenient product. The housing industry has been moving in this direction for a long time with its manufacturing of products that are user-friendly. Up to now trim has been the area which has not been simplified to any great extent, but now Versatrim is poised to revolutionize the industry.

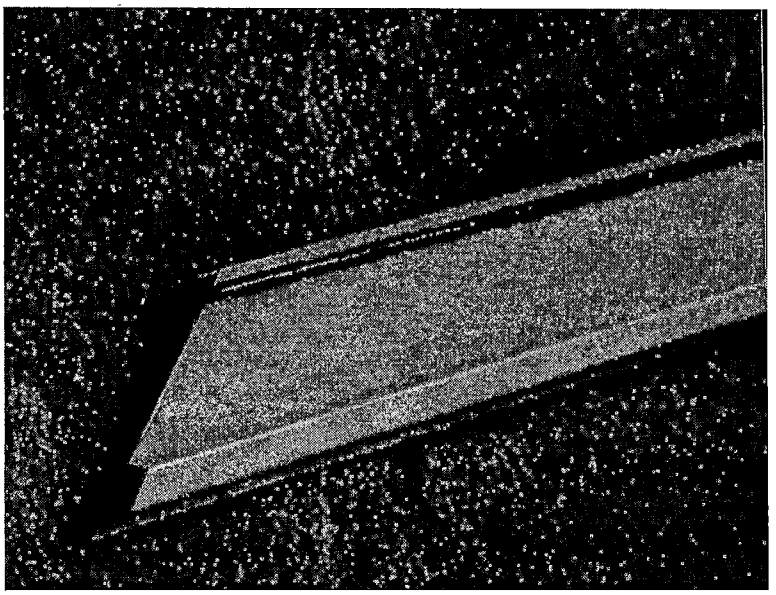
Picture Summary of the Versatrim Process

Former Elements of Versatrim

1. This is the very first prototype of Versatrim. [then called Pro Trim that time]. It consisted of small strips of maple [the spline] screwed to the wall and jambs fastened with metal corner brackets.

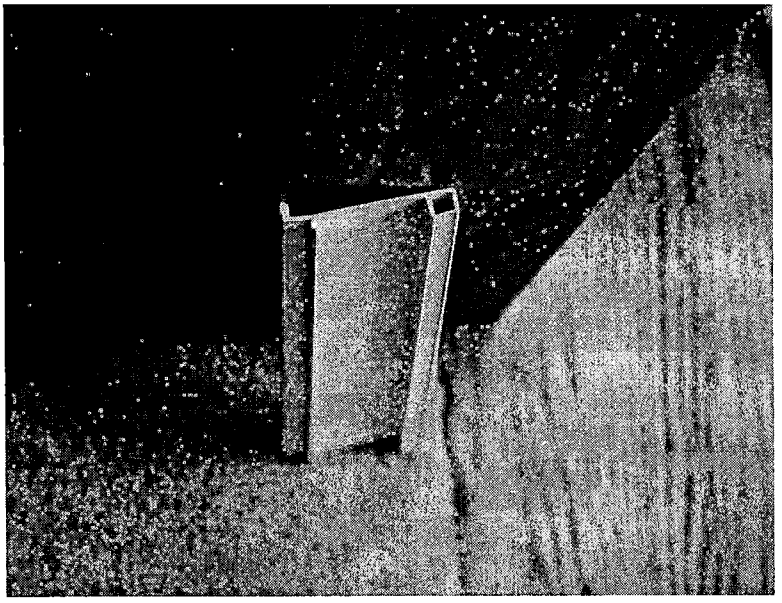


2. This picture shows the back of the moulding with the 'groove' that fits over the 'spline'.

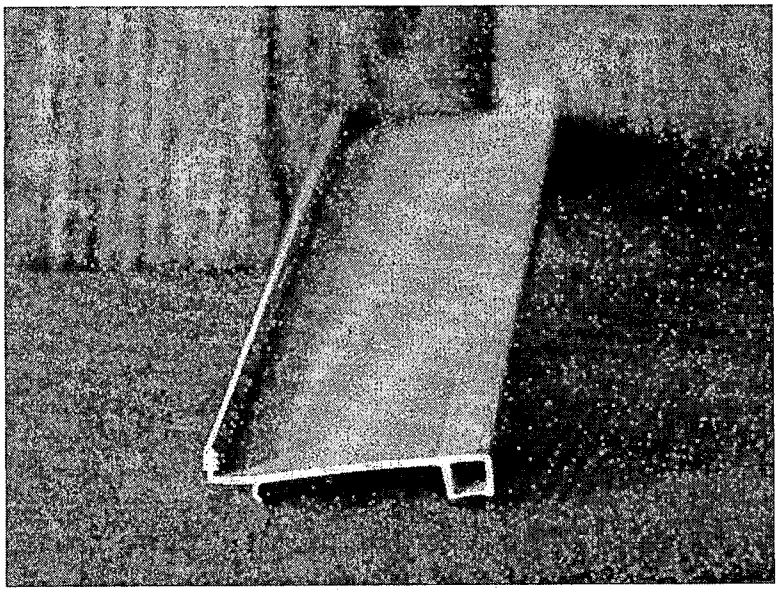


This prototype was one of many former plastic "splines". Notice the black part on the leg of the "spline". This was done of co-extrusion [2 different types of plastic]. The black part was a very pliable, rubbery type of plastic which I thought should have grabbed the groove and held the inside of the moulding securely to the wall. Instead, it tended to hold the moulding out from the wall.

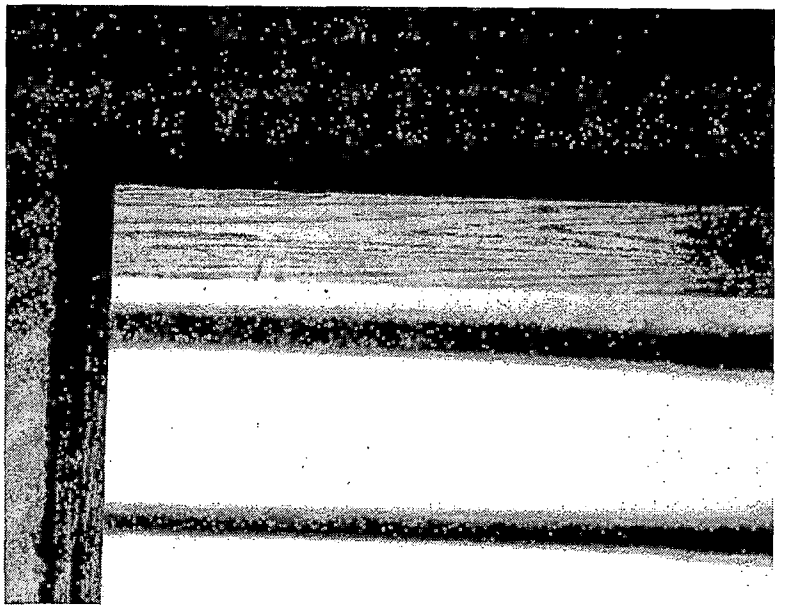
Present Elements of Versatrim



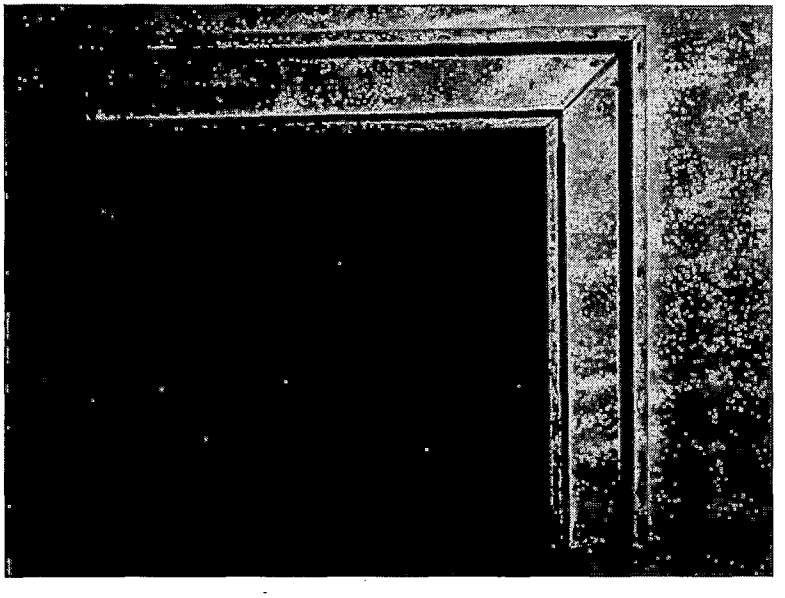
This present "spline" has a basckwards "C" for a leg to hold the inside edge of the moulding tight to the wall. This works much better.



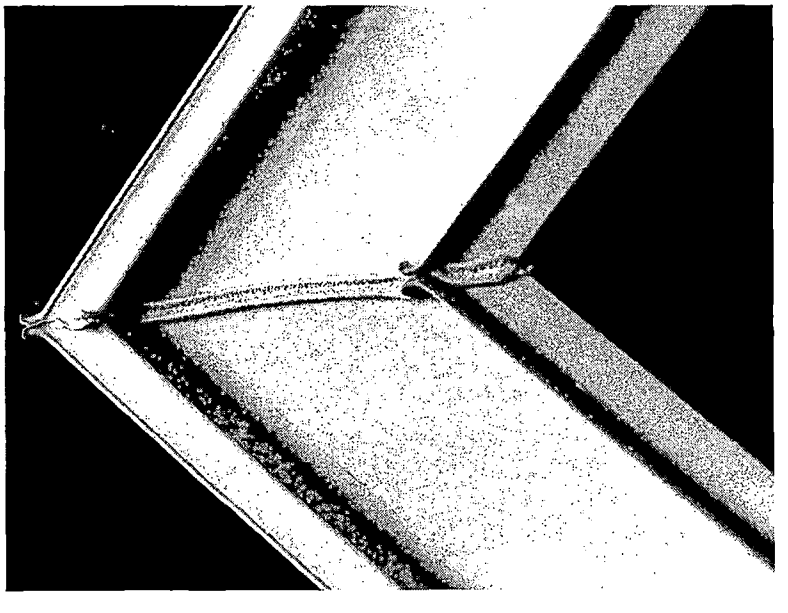
This is another view of the present "spline". Notice the "arrowhead" protrusion on the bottom of the spline. This is inserted into the slot in the jamb. [shown in the next picture].



6. This is a jamb. Notice the slots into which the 'arrowhead' protrusion of the plastic spline fits. Once the plastic spline is in the jamb, it will not come out.

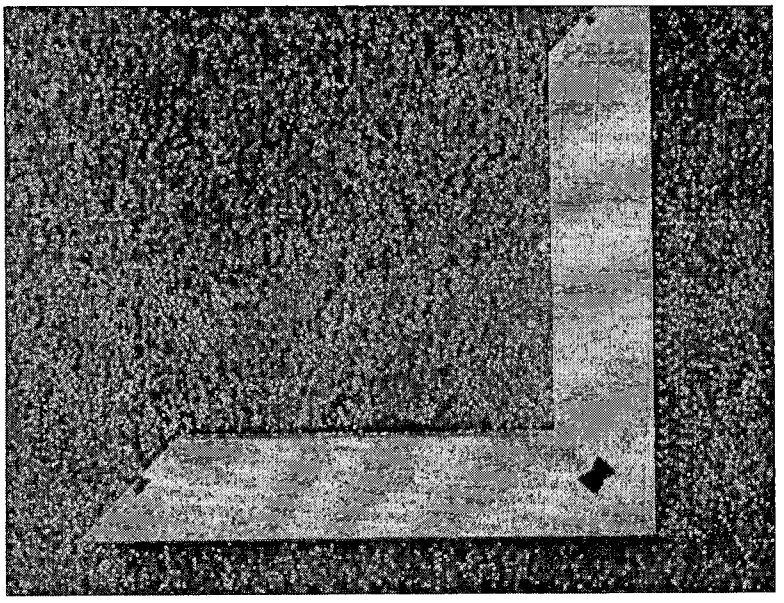


7. The plastic spline is either stapled, nailed, or screwed to the wall. The system consists of a corner piece at each side of the door and then 5 foot pieces of spline extending to the floor.



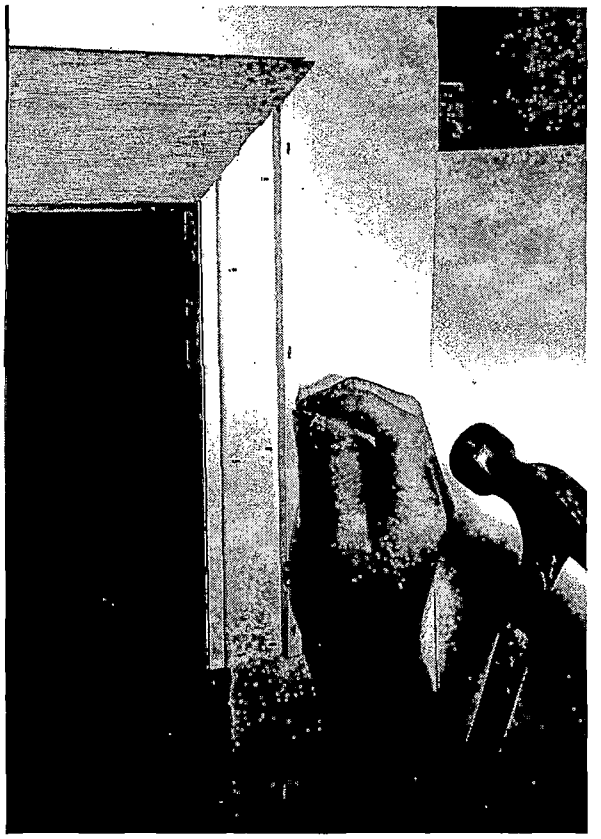
8. The plastic corner piece is welded together as shown in this picture. After being welded, the seams are cleaned for a smooth finish.

9. Notice the finger holds on this back view of the moulding which are used to remove the moulding from the wall.

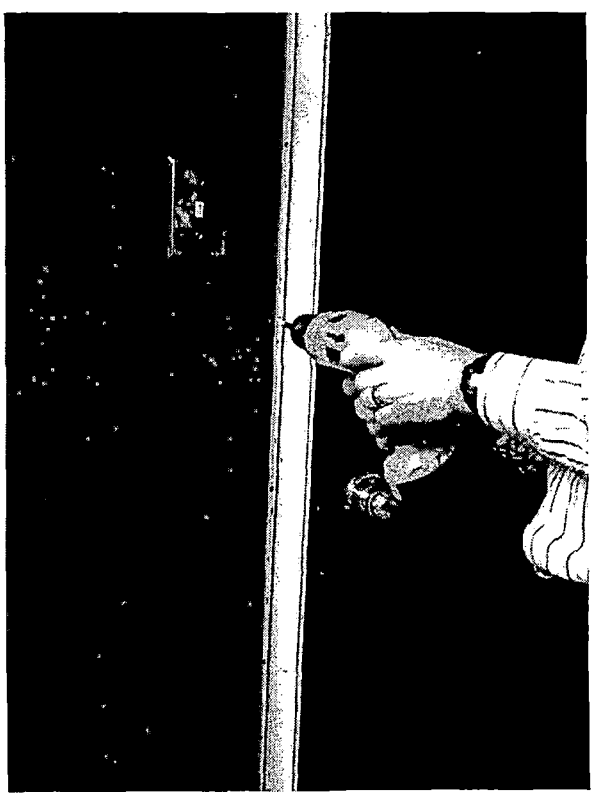


10. This 'Hoffman' joint consists of a dovetail slot in each mating piece of wood and plastic key. This joint provides an extremely tight mitre joint which can still be taken apart.

Methods of Attatching the Plastic Spline



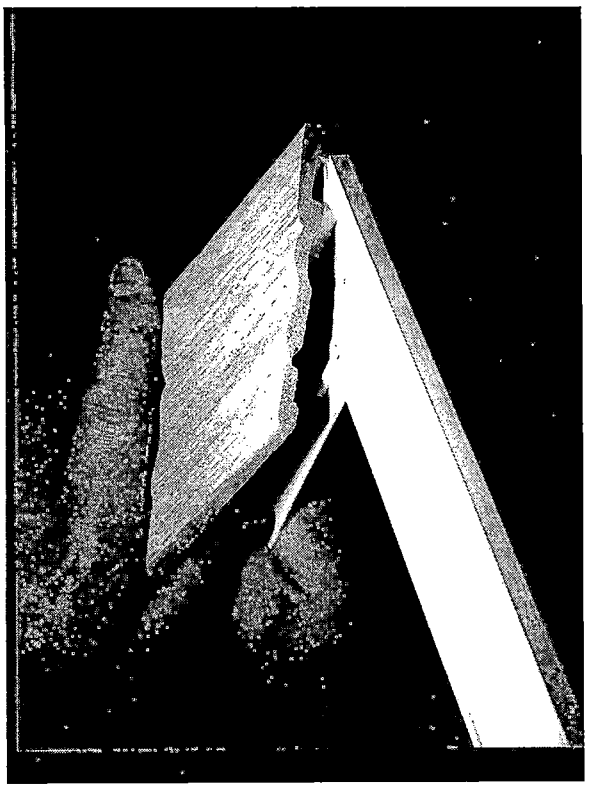
11. Nailing is shown as the method of attachment in this picture.



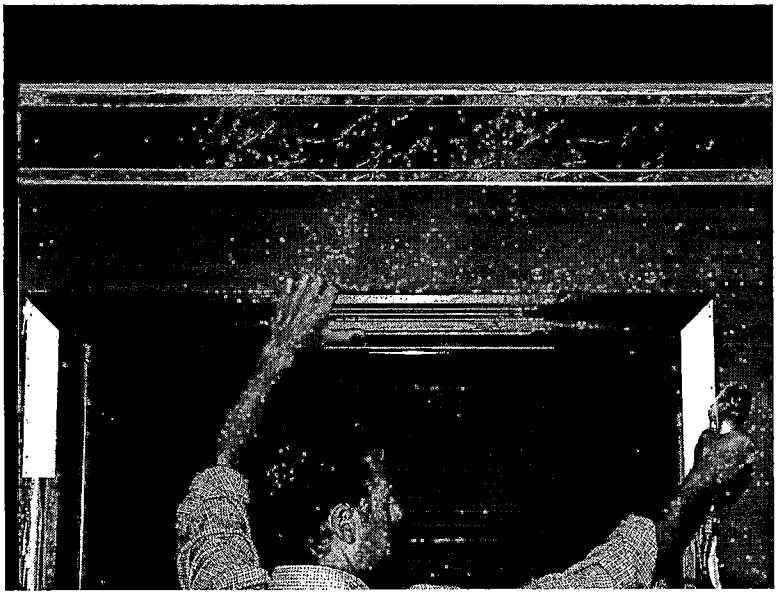
12. The plastic spline can also be screwed to the wall.

13. Stapling will probably be the preferred method for contractors as it is the fastest method of fastening. However, it requires an industrial type staple gun.

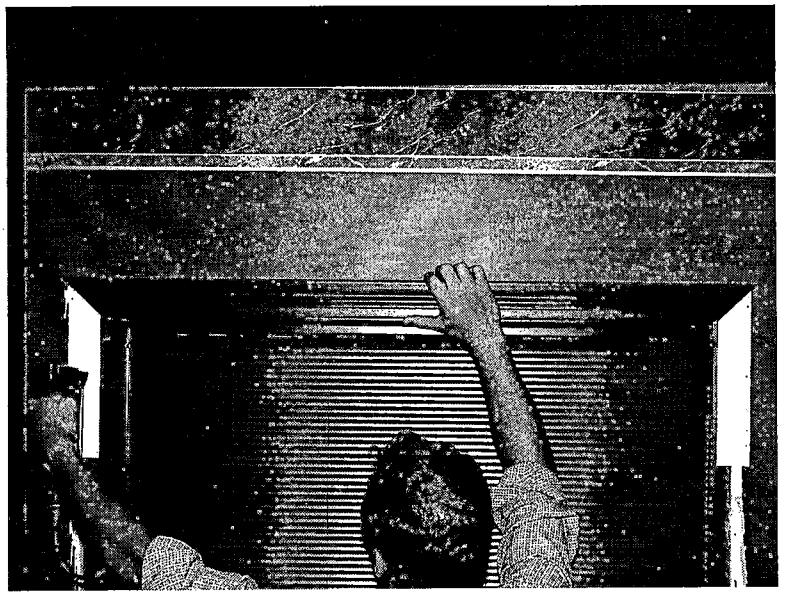
Installing Versatrim Around Windows



14. When installing Versatrim around windows, the mouldings are cut to size and used as a template to position the plastic pieces. The next step inserts the plastic corner pieces into each end of the mouldings.



15. The moulding is then placed at the top of the window and the exposed plastic pieces stapled into place.

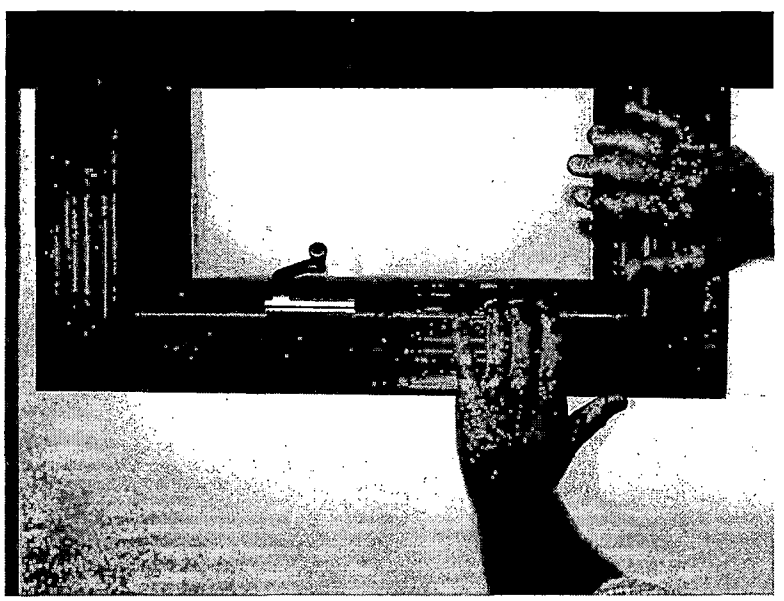


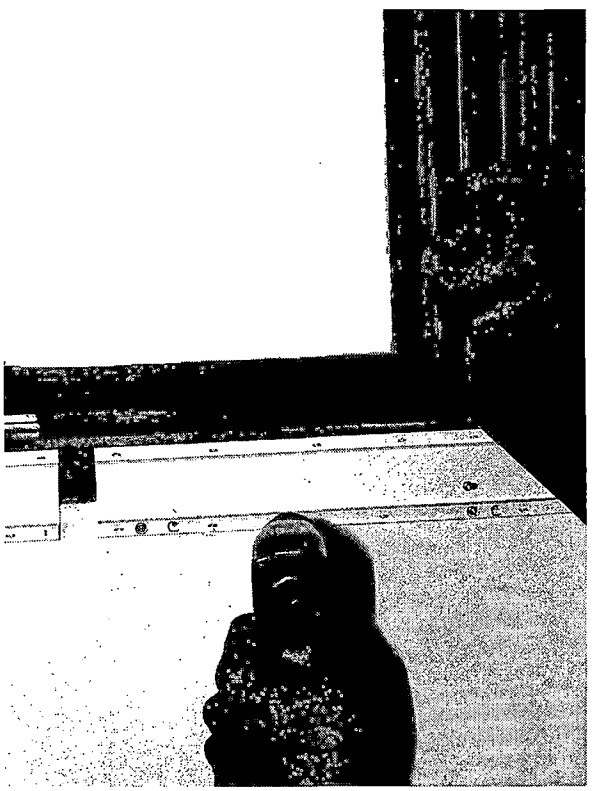
16. This shows the opposite side being stapled into place.

17. A corner piece of plastic is inserted into the left bottom piece of moulding, put in place and then the exposed plastic fastened into place

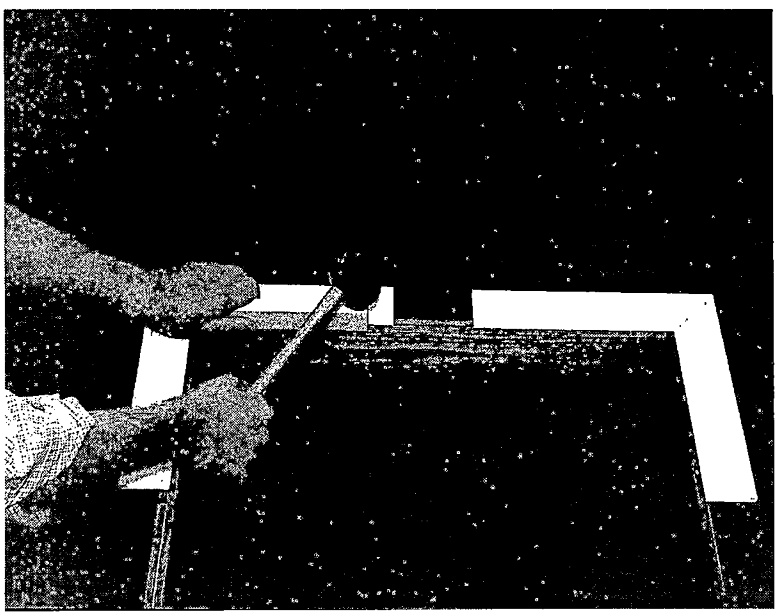
19. After removing the bottom piece of moulding the exposed plastic piece is stapled in place. Then all the mouldings are removed and the hidden pieces of plastic are securely stapled in place. To finish the job the mouldings are then snapped back onto the splines.

18. The same procedure as picture 17 is then followed for the right side moulding. However, before the exposed plastic is fastened into place, the bottom moulding is lightly tapped into place to position that last piece of plastic. This allows the side piece to be held tightly in place while the bottom moulding is removed.



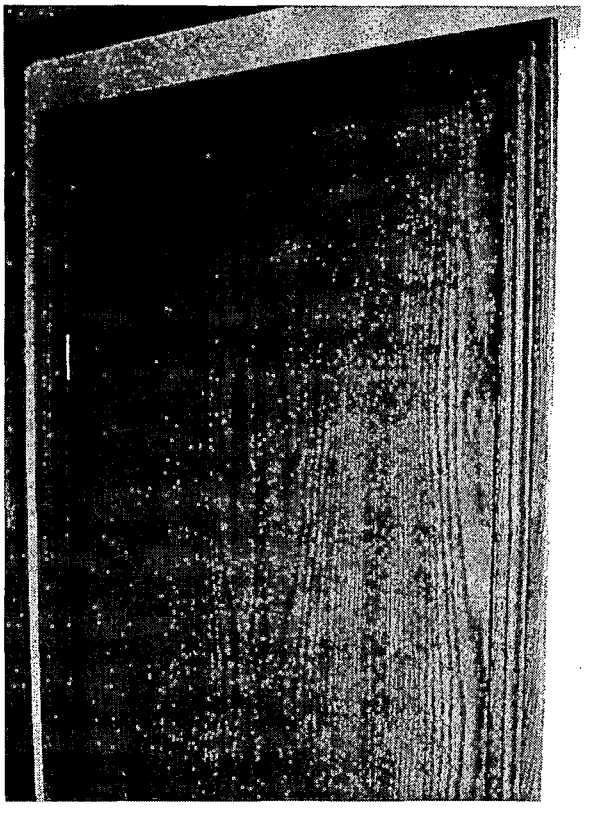


20. This is a door jamb being fastened together.



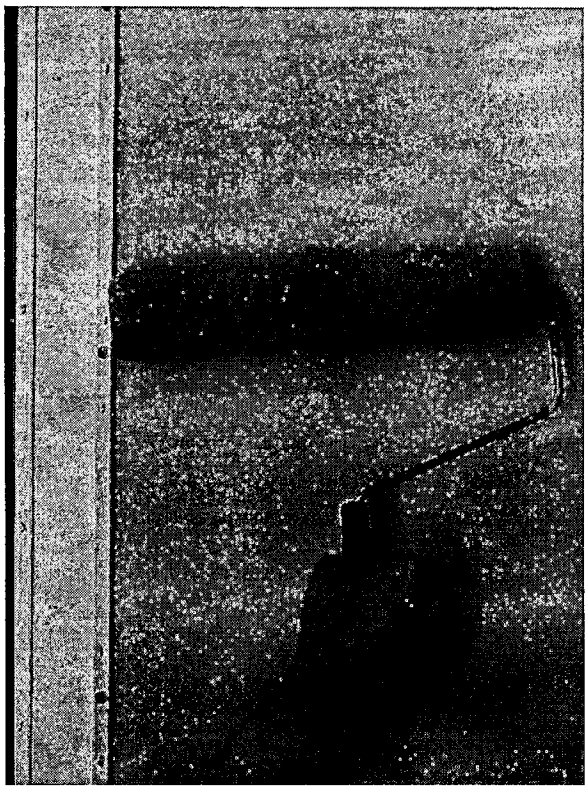
21. After the jamb is together, welded plastic corner splines are tapped into the slots in the jamb. Plastic extension pieces are then put into the jamb slots. [Not shown].

22. After the door jamb is leveled and plumbed the plastic splines are fastened to the wall.

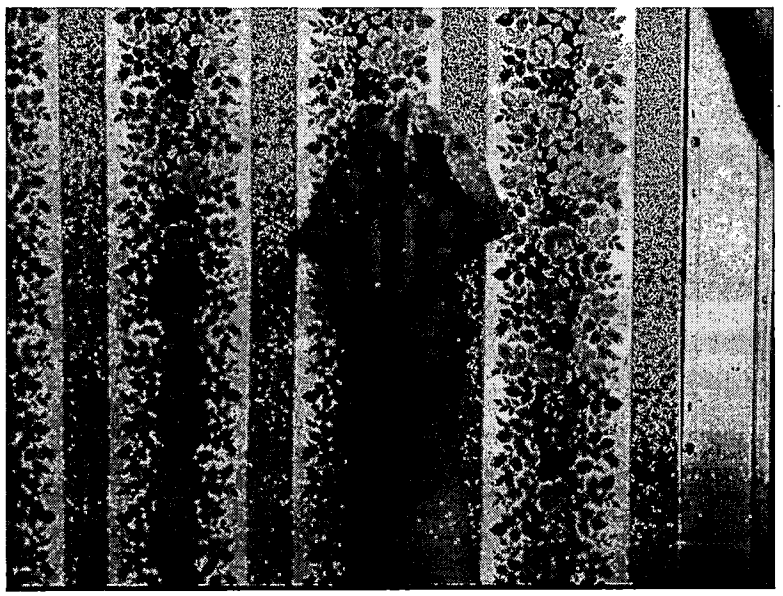


23. The mouldings are then snapped onto the plastic splines for the finished job.

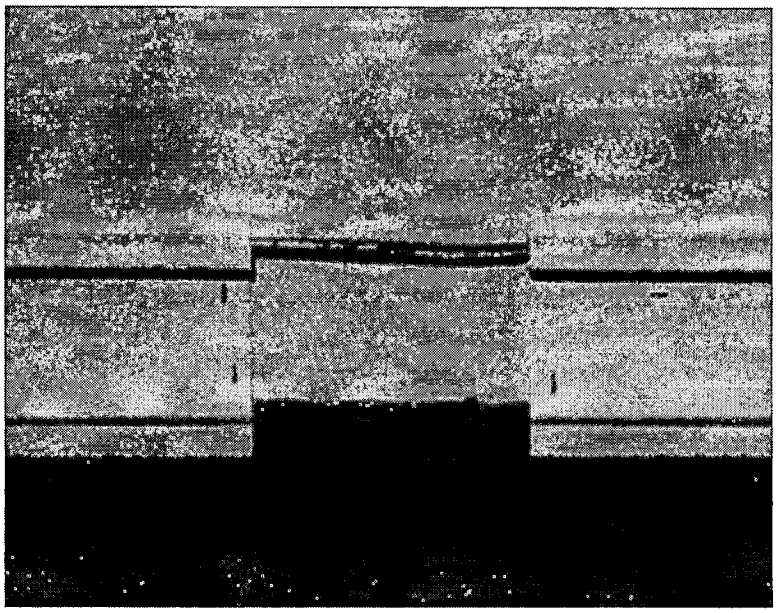
Advantages of Versatrim



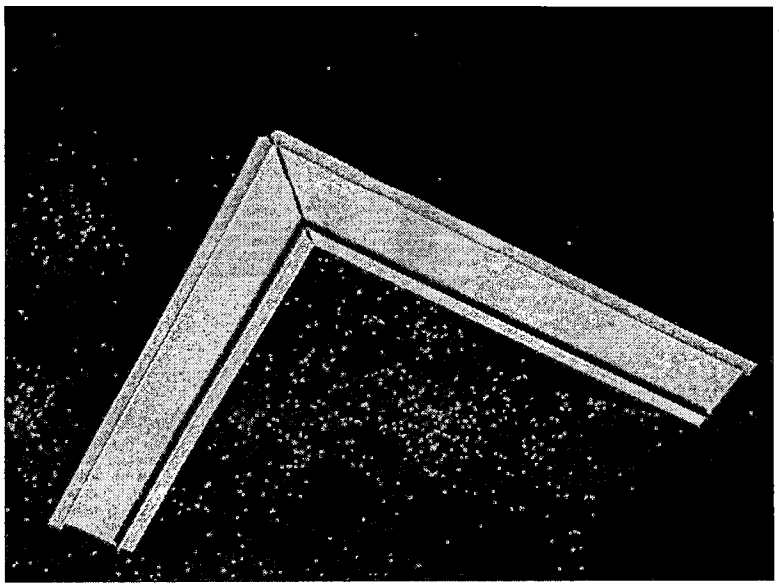
24. Mouldings are removable to facilitate painting. Note how roller can be run right up alongside the plastic spline. There is no need to cut in with finishing brushes



25. Removable mouldings also facilitate wallpapering as the rough edges of the wallpaper get hidden under the trim.



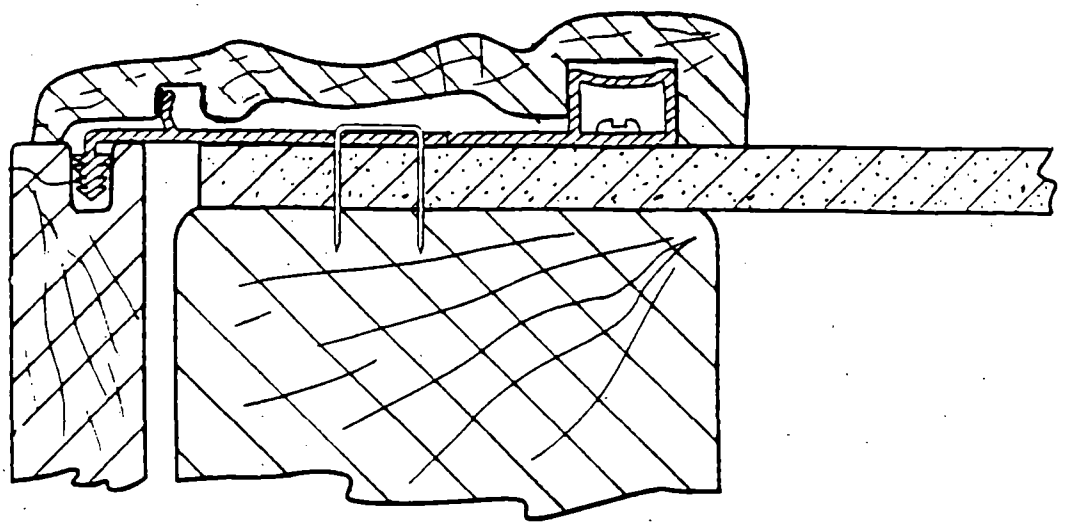
26. Stereo of security system wires can be run through the hollow in the plastic spline.

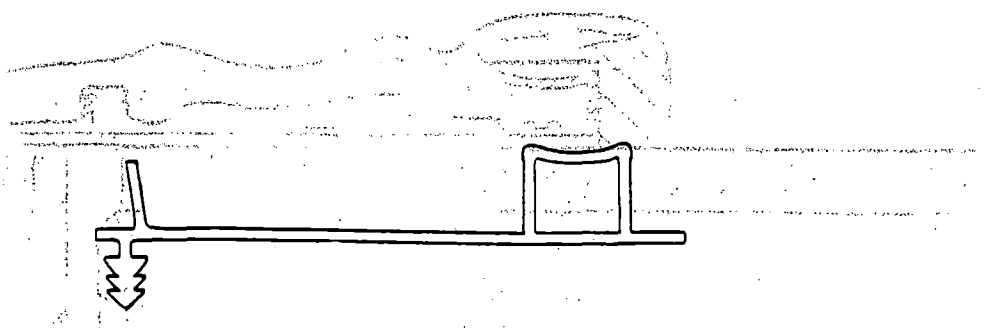


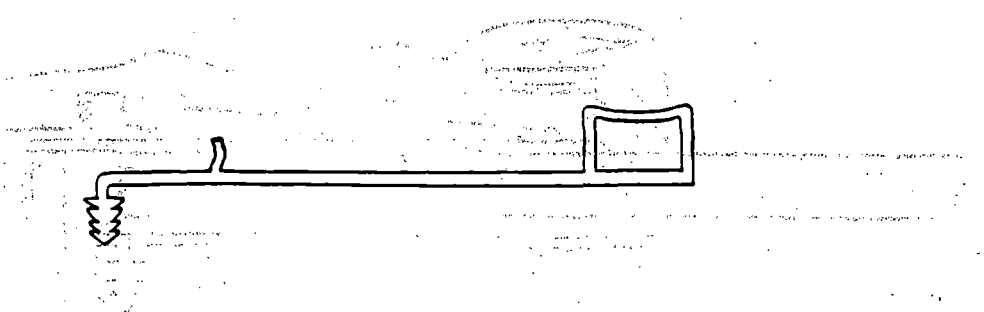
27. The corner plastic spline has the tip of the corner nipped off in order to pull the wires through before insertion into the next piece.

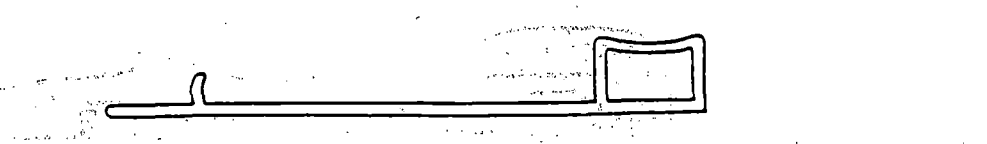
Slides

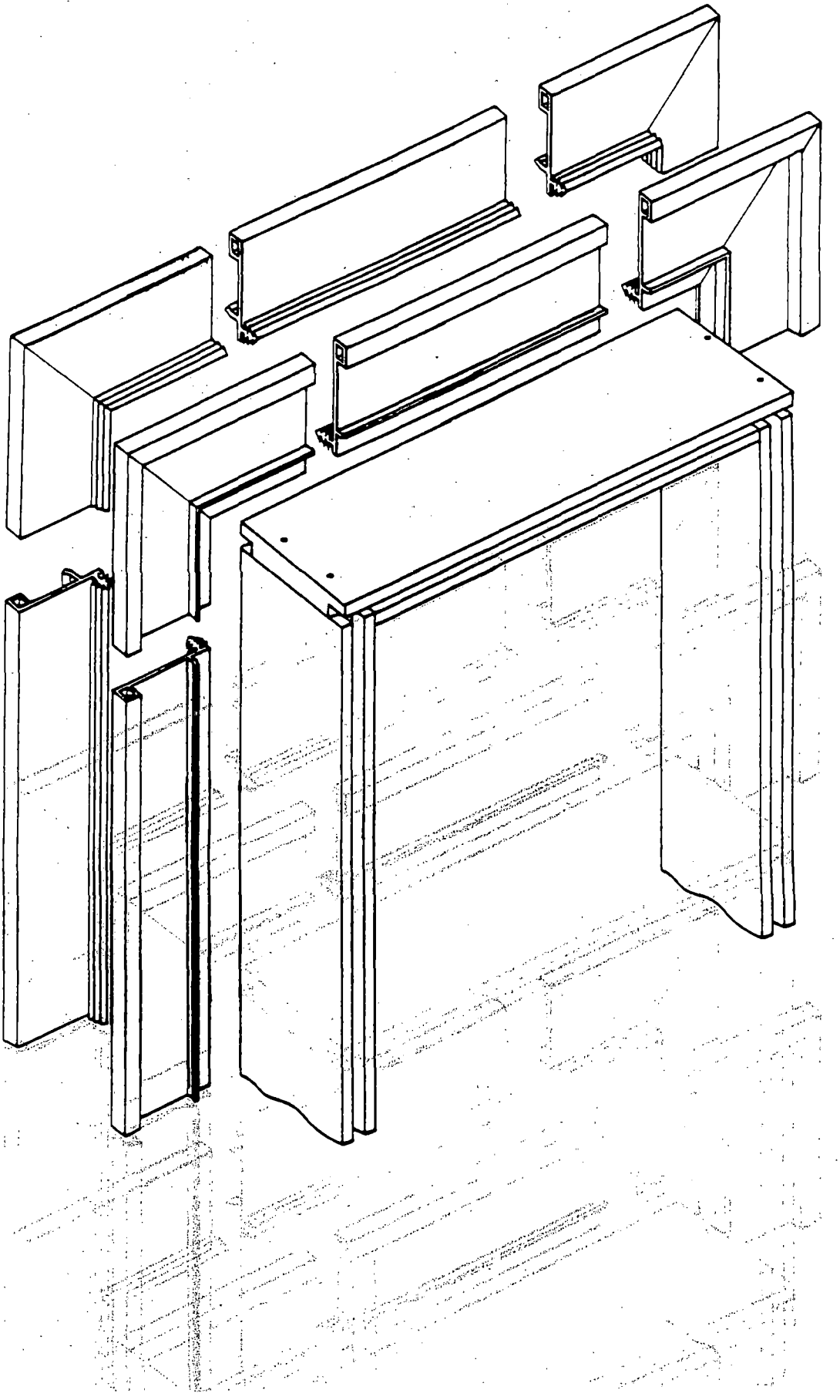
1. Former spline
2. Corner of spline
3. Weld in plastic spline
4. End view of plastic spline
5. Spline being nailed into place
6. Spline being screwed into place
7. Spline being stapled into place
8. Wires running through the plastic spline
9. End of the corner of the plastic spline open to allow wires to be pulled through
10. End of spline open with wires shown
11. All mouldings off the splines around a door
12. Hoffman joint
13. Slots in jamb that except the plastic spline in new construction
14. Top moulding on spline over door
15. All mouldings off the plastic splines around a window
16. Top moulding on window
17. Top and left mouldings on around a window
18. All window mouldings on except bottom piece
19. All mouldings on around a window
20. Taking moulding off a closet door opening
21. Top moulding being taken off over a closet door
22. Piece of finger-jointed pine covered with oak veneer
23. Piece of moulding made from sawdust and glue compressed together











Month: January	**Week: 3rd.**	Appendix E - 1

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: January 16th.							
Oak	-8.6 C	74 %	70%	12.5%	.387	1.385	8
Poplar				12.5%	.386	1.384	8
White Pine				12.5%	.386	1.382	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.385	1.381	6
Cedar				12.5%	.385	1.381	6
Date: January 17th.							
Oak	-8.3 C	79.5%	71%	12.5%	.387	1.385	8
Poplar				12.5%	.386	1.384	8
White Pine				12.5%	.386	1.382	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.385	1.381	6
Cedar				12.5%	.385	1.381	6
Date: January 18th.							
Oak	-2.1 C	93%	72%	12.5%	.387	1.385	8
Poplar				12.5%	.386	1.384	8
White Pine				12.5%	.386	1.382	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.385	1.381	6
Cedar				12.5%	.385	1.381	6
Date: January 19th.							
Oak	-.1 C	94.5%	72%	12.5%	.387	1.385	8
Poplar				12.5%	.386	1.384	8
White Pine				12.5%	.386	1.382	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.385	1.381	6
Cedar				12.5%	.385	1.381	6
Date: January 20th.							
Oak	-1.3 C	90%	71%	12.5%	.387	1.386	8
Poplar				12.5%	.386	1.384	8
White Pine				12.5%	.386	1.382	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.385	1.381	6
Cedar				12.5%	.385	1.381	6
Date: January 21st.							
Oak	-2.9 C	87.5%	70%	12.5%	.387	1.386	8
Poplar				12.5%	.386	1.384	8
White Pine				12.5%	.386	1.382	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.385	1.381	6
Cedar				12.5%	.385	1.381	6
Date: January 22nd.							
Oak	-2.5 C	87.5%	70%	13%	.387	1.387	8
Poplar				13%	.386	1.385	8
White Pine				13%	.386	1.383	7
MDF				13%	.383	1.375	5
Mahogany				13%	.385	1.382	6
Cedar				13%	.385	1.382	6

Note: Moisture Content = Moisture Content of Mouldings

Month: January	**Week: 4th.**

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: January 23rd.							
Oak	-5.2 C	84.5%	69%	13%	.387	1.387	8
Poplar				13%	.387	1.385	8
White Pine				13%	.386	1.383	7
MDF				13%	.383	1.375	5
Mahogany				13%	.385	1.382	6
Cedar				13%	.385	1.382	6
Date: January 24th.							
Oak	-7.4 C	78.5%	68%	12.5%	.387	1.386	8
Poplar				12.5%	.387	1.385	8
White Pine				12.5%	.386	1.382	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.385	1.382	6
Cedar				12.5%	.385	1.382	6
Date: January 25th.							
Oak	-11.4 C	77.5%	68%	12.5%	.387	1.385	8
Poplar				12.5%	.386	1.384	8
White Pine				12.5%	.386	1.382	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.385	1.381	6
Cedar				12.5%	.385	1.381	6
Date: January 26th.							
Oak	-12.8%	73%	67%	12.5%	.387	1.385	8
Poplar				12.5%	.386	1.384	8
White Pine				12.5%	.386	1.382	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.385	1.381	6
Cedar				12.5%	.385	1.381	6
Date: January 27th.							
Oak	-16.3 C	67.5%	67%	12%	.387	1.384	7
Poplar				12%	.386	1.383	7
White Pine				12%	.385	1.381	6
MDF				12%	.383	1.375	5
Mahogany				12%	.385	1.381	6
Cedar				12%	.385	1.380	6
Date: January 28th.							
Oak	-16.1 C	64.5%	67%	12%	.386	1.384	7
Poplar				12%	.386	1.383	7
White Pine				12%	.385	1.381	6
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.381	6
Cedar				12%	.385	1.380	6
Date: January 29th.							
Oak	-13.4 C	75%	68%	12%	.386	1.383	7
Poplar				12%	.386	1.382	7
White Pine				12%	.385	1.381	6
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.385	1.380	6

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: January 30th.							
Oak	-5.3 C	76.5%	68%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.385	1.380	6
Date: January 31st.							
Oak	-1.7 C	85.5%	69%	12.5%	.386	1.383	8
Poplar				12.5%	.386	1.382	8
White Pine				12.5%	.386	1.381	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.384	1.380	6
Cedar				12.5%	.384	1.380	6
Date: February 1st.							
Oak	-9.2 C	74%	69%	12.5%	.387	1.383	8
Poplar				12.5%	.386	1.382	8
White Pine				12.5%	.386	1.381	7
MDF				12.5%	.383	1.375	5
Mahogany				12.5%	.384	1.380	6
Cedar				12.5%	.384	1.380	6
Date: February 2nd.							
Oak	-16.5 C	55.5%	66%	12%	.387	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.386	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 3rd.							
Oak	-12.7 C	72%	67%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 4th.							
Oak	-18.8 C	69%	67%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 5th.							
Oak	-27.8 C	49.5%	65%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6

Note: Moisture Content = Moisture Content of Mouldings

Month: February	**Week: 2nd.**	Appendix E - 4

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: February 6th.							
Oak	-26 C	51.5%	64%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 7th.							
Oak	-20.6 C	52%	63%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 8th.							
Oak	-19.3 C	60.5%	63%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 9th.							
Oak	-11.9 C	73%	64%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 10th.							
Oak	-9.2 C	83%	65%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 11th.							
Oak	-9.2 C	83%	65%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 12th.							
Oak	-18.3 C	58%	63%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6

Note: Moisture Content = Moisture Content of Mouldings

Month: February	**Week: 3rd.**

Date: February 13th.							
Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Oak	-12.6 C	57%	61%	12%	.386	1.384	8
Poplar				12%	.386	1.383	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.381	6
Cedar				12%	.384	1.380	6
Date: February 14th.							
Oak	-13.5 C	63.5%	62%	12%	.386	1.383	8
Poplar				12%	.386	1.382	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.380	6
Cedar				12%	.384	1.380	6
Date: February 15th.							
Oak	-9.1 C	80.5%	64%	12%	.386	1.384	8
Poplar				12%	.386	1.383	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.381	6
Cedar				12%	.384	1.380	6
Date: February 16th.							
Oak	-9.2 C	70%	63%	12%	.386	1.384	8
Poplar				12%	.386	1.383	8
White Pine				12%	.385	1.381	7
MDF				12%	.383	1.375	5
Mahogany				12%	.384	1.381	6
Cedar				12%	.384	1.380	6
Date: February 17th.							
Oak	-7.5 C	75%	63%	11.5%	.386	1.384	7
Poplar				11.5%	.386	1.383	7
White Pine				11.5%	.385	1.381	6
MDF				11.5%	.383	1.375	5
Mahogany				11.5%	.384	1.381	6
Cedar				11.5%	.384	1.380	6
Date: February 18th.							
Oak	-3.7 C	71.5%	63%	11.5%	.386	1.384	7
Poplar				11.5%	.385	1.383	7
White Pine				11.5%	.385	1.381	6
MDF				11.5%	.383	1.375	5
Mahogany				11.5%	.384	1.381	6
Cedar				11.5%	.384	1.380	6
Date: February 19th.							
Oak	-3.7 C	61%	62%	11.5%	.386	1.384	7
Poplar				11.5%	.385	1.383	7
White Pine				11.5%	.385	1.381	6
MDF				11.5%	.383	1.375	5
Mahogany				11.5%	.384	1.381	6
Cedar				11.5%	.384	1.380	6

Note: Moisture Content = Moisture Content of Mouldings

Month: February	**Week: 4th.**

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: February 20th.							
Oak	-5.2 C	75.5%	62%	11.5%	.386	1.381	7
Poplar				11.5%	.385	1.381	7
White Pine				11.5%	.385	1.379	6
MDF				11.5%	.383	1.375	5
Mahogany				11.5%	.384	1.379	6
Cedar				11.5%	.384	1.379	6
Date: February 21st.							
Oak	-14.1 C	55%	60%	11%	.386	1.380	7
Poplar				11%	.385	1.379	7
White Pine				11%	.385	1.378	6
MDF				11%	.383	1.375	5
Mahogany				11%	.384	1.378	6
Cedar				11%	.384	1.378	6
Date: February 22nd.							
Oak	-13.2 C	70.5%	61%	11%	.386	1.380	7
Poplar				11%	.385	1.379	7
White Pine				11%	.385	1.378	6
MDF				11%	.383	1.375	5
Mahogany				11%	.384	1.378	6
Cedar				11%	.384	1.378	6
Date: February 23rd.							
Oak	-8.2 C	78.5%	62%	11%	.386	1.380	7
Poplar				11%	.385	1.379	7
White Pine				11%	.385	1.378	6
MDF				11%	.383	1.375	5
Mahogany				11%	.384	1.378	6
Cedar				11%	.384	1.378	6
Date: February 24th.							
Oak	-15 C	52%	60%	11%	.386	1.380	7
Poplar				11%	.385	1.379	7
White Pine				11%	.385	1.378	6
MDF				11%	.383	1.375	5
Mahogany				11%	.384	1.378	6
Cedar				11%	.384	1.378	6
Date: February 25th.							
Oak	-20.5 C	47.5%	58%	11%	.386	1.380	7
Poplar				11%	.385	1.379	7
White Pine				11%	.385	1.378	6
MDF				11%	.383	1.375	5
Mahogany				11%	.384	1.378	6
Cedar				11%	.384	1.378	6
Date: February 26th.							
Oak	-20.7%	49.5%	57%	10.5%	.385	1.389	7
Poplar				10.5%	.384	1.378	6
White Pine				10.5%	.384	1.377	6
MDF				10.5%	.383	1.375	5
Mahogany				10.5%	.384	1.377	6
Cedar				10.5%	.384	1.377	6

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: February 27th.							
Oak	-13.1 C	47%	55%	10.5%	.385	1.378	7
Poplar				10.5%	.384	1.378	6
White Pine				10.5%	.384	1.377	6
MDF				10.5%	.383	1.375	5
Mahogany				10.5%	.384	1.377	6
Cedar				10.5%	.384	1.377	6
Date: February 28th							
Oak	-10.2 C	52%	54%	10.5%	.385	1.378	7
Poplar				10.5%	.384	1.378	6
White Pine				10.5%	.384	1.377	6
MDF				10.5%	.383	1.375	5
Mahogany				10.5%	.384	1.377	6
Cedar				10.5%	.384	1.377	6
Date: March 1st.							
Oak	-12.1 C	49%	53%	10.5%	.385	1.378	7
Poplar				10.5%	.384	1.378	6
White Pine				10.5%	.384	1.377	6
MDF				10.5%	.383	1.375	5
Mahogany				10.5%	.384	1.377	6
Cedar				10.5%	.384	1.377	6
Date: March 2nd.							
Oak	-15.1 C	53.5%	53%	10.5%	.385	1.378	7
Poplar				10.5%	.384	1.378	6
White Pine				10.5%	.384	1.377	6
MDF				10.5%	.383	1.375	5
Mahogany				10.5%	.384	1.377	6
Cedar				10.5%	.384	1.377	6
Date: March 3rd.							
Oak	-10.2 C	65%	54%	10.5%	.385	1.378	7
Poplar				10.5%	.384	1.378	6
White Pine				10.5%	.384	1.377	6
MDF				10.5%	.383	1.375	5
Mahogany				10.5%	.384	1.377	6
Cedar				10.5%	.384	1.377	6
Date: March 4th.							
Oak	-8.4 C	75.5%	56%	10.5%	.385	1.378	7
Poplar				10.5%	.384	1.378	6
White Pine				10.5%	.384	1.377	6
MDF				10.5%	.383	1.375	5
Mahogany				10.5%	.384	1.377	6
Cedar				10.5%	.384	1.377	6
Date: March 5th.							
Oak	-14.2 C	70%	56%	10%	.384	1.377	6
Poplar				10%	.384	1.376	5
White Pine				10%	.384	1.376	5
MDF				10%	.383	1.375	5
Mahogany				10%	.384	1.376	5
Cedar				10%	.384	1.376	5

Note: Moisture Content = Moisture Content of Mouldings

Month: March	**Week: 2nd.**

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: March 6th.							
Oak	-12.5 C	68.5%	55%	10%	.384	1.377	6
Poplar				10%	.384	1.376	5
White Pine				10%	.384	1.376	5
MDF				10%	.383	1.375	5
Mahogany				10%	.383	1.376	5
Cedar				10%	.384	1.376	5
Date: March 7th.							
Oak	-12	73.5%	54%	10%	.384	1.377	6
Poplar				10%	.384	1.376	5
White Pine				10%	.384	1.376	5
MDF				10%	.383	1.375	5
Mahogany				10%	.383	1.376	5
Cedar				10%	.384	1.376	5
Date: March 8th.							
Oak	-15.2 C	60%	54%	10%	.384	1.377	6
Poplar				10%	.384	1.376	5
White Pine				10%	.384	1.376	5
MDF				10%	.383	1.375	5
Mahogany				10%	.383	1.376	5
Cedar				10%	.384	1.376	5
Date: March 9th.							
Oak	-17 C	42%	51%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.384	1.375	5
Date: March 10th.							
Oak	-14.6 C	60%	52%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.383	1.375	5
Date: March 11th.							
Oak	-2.4 C	69.5%	53%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.383	1.375	5
Date: March 12th.							
Oak	2.5 C	71%	54%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.383	1.375	5

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: March 13th.							
Oak	6.9 C	71.5%	54%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.383	1.375	5
Date: March 14th.							
Oak	8.2 C	63%	53%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.383	1.375	5
Date: March 15th.							
Oak	7.1 C	77.5%	54%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.383	1.375	5
Date: March 16th.							
Oak	.9 C	77.5%	54%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.383	1.375	5
Date: March 17th.							
Oak	-2.6 C	61.5%	54%	9.5%	.383	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar							
Date: March 18th.							
Oak	1.3 C	64%	53%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.383	1.375	5
Date: March 19th.							
Oak	2.7 C	74.5%	52%	9.5%	.384	1.375	5
Poplar				9.5%	.383	1.375	5
White Pine				9.5%	.383	1.375	5
MDF				9.5%	.383	1.375	5
Mahogany				9.5%	.383	1.375	5
Cedar				9.5%	.383	1.375	5

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: March 27th.							
Oak	.4 C	60.5%	44%	9%	.383	1.373	5
Poplar				9%	.382	1.373	5
White Pine				9%	.383	1.373	5
MDF				9%	.383	1.375	5
Mahogany				9%	.383	1.374	5
Cedar				9%	.383	1.374	5
Date: March 28th.							
Oak	3.9 C	45%	43%	8.5%	.383	1.372	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: March 29th.							
Oak	.9 C	59%	42%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: March 30th.							
Oak	-.6 C	50.5%	41%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: March 31st							
Oak	-4 C	45%	40%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: April 1st.							
Oak	-1.7 C	60%	41%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: April 2nd.							
Oak	-1 C	72.5%	43%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: March 27th.							
Oak	.4 C	60.5%	44%	9%	.383	1.373	5
Poplar				9%	.382	1.373	5
White Pine				9%	.383	1.373	5
MDF				9%	.383	1.375	5
Mahogany				9%	.383	1.374	5
Cedar				9%	.383	1.374	5
Date: March 28th.							
Oak	3.9 C	45%	43%	8.5%	.383	1.372	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: March 29th.							
Oak	.9 C	59%	42%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: March 30th.							
Oak	-.6 C	50.5%	41%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: March 31st							
Oak	-4 C	45%	40%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: April 1st.							
Oak	-1.7 C	60%	41%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4
Date: April 2nd.							
Oak	-1 C	72.5%	43%	8.5%	.383	1.371	4
Poplar				8.5%	.382	1.372	4
White Pine				8.5%	.382	1.372	4
MDF				8.5%	.383	1.375	5
Mahogany				8.5%	.383	1.373	4
Cedar				8.5%	.383	1.373	4

Note: Moisture Content = Moisture Content of Mouldings

Date: April 3rd.							
Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Oak	2.5C	84%	45%	8%	.382	1.369	4
Poplar				8%	.382	1.370	4
White Pine				8%	.382	1.371	4
MDF				8%	.383	1.375	5
Mahogany				8%	.382	1.372	4
Cedar				8%	.382	1.372	4
Date: April 4th.							
Oak	-6.9C	64%	64%	8%	.382	1.369	4
Poplar				8%	.382	1.370	4
White Pine				8%	.382	1.371	4
MDF				8%	.383	1.375	5
Mahogany				8%	.382	1.372	4
Cedar				8%	.382	1.372	4
Date: April 5th.							
Oak	-9.8C	48%	41%	8%	.382	1.369	4
Poplar				8%	.382	1.370	4
White Pine				8%	.382	1.371	4
MDF				8%	.383	1.375	5
Mahogany				8%	.382	1.372	4
Cedar				8%	.382	1.372	4
Date: April 6th.							
Oak	-6.1C	74.5%	43%	8%	.382	1.369	4
Poplar				8%	.382	1.370	4
White Pine				8%	.382	1.371	4
MDF				8%	.383	1.375	5
Mahogany				8%	.382	1.372	4
Cedar				8%	.382	1.372	4
Date: April 7th.							
Oak	-5.4C	67.5%	42%	7.5%	.382	1.368	3
Poplar				7.5%	.381	1.369	4
White Pine				7.5%	.381	1.370	4
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	4
Cedar				7.5%	.382	1.371	4
Date: April 8th.							
Oak	-.9C	67%	42%	7.5%	.382	1.368	3
Poplar				7.5%	.381	1.369	4
White Pine				7.5%	.381	1.370	4
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	4
Cedar				7.5%	.382	1.371	4
Date: April 9th.							
Oak	-4.2C	54.5%	40%	7.5%	.381	1.368	3
Poplar				7.5%	.381	1.369	4
White Pine				7.5%	.381	1.370	4
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	4
Cedar				7.5%	.382	1.371	4

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: April 10th.							
Oak	-4.2C	54.5%	40%	7.5%	.381	1.368	3
Poplar				7.5%	.381	1.369	4
White Pine				7.5%	.381	1.370	4
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	4
Cedar				7.5%	.382	1.371	4
Date: April 11th.							
Oak	4.3C	35%	36%	7.5%	.381	1.368	3
Poplar				7.5%	.381	1.369	4
White Pine				7.5%	.381	1.370	4
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	4
Cedar				7.5%	.382	1.371	4
Date: April 12th.							
Oak	5.8C	73.5%	40%	7.5%	.381	1.368	3
Poplar				7.5%	.381	1.369	4
White Pine				7.5%	.381	1.370	4
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	4
Cedar				7.5%	.382	1.371	4
Date: April 13th.							
Oak	2.2C	71.5%	39%	7.5%	.381	1.368	3
Poplar				7.5%	.381	1.369	4
White Pine				7.5%	.381	1.370	4
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	4
Cedar				7.5%	.382	1.371	4
Date: April 14th.							
Oak	.8C	49.5%	37%	7%	.381	1.367	3
Poplar				7%	.381	1.368	4
White Pine				7%	.381	1.369	4
MDF				7%	.383	1.375	5
Mahogany				7%	.382	1.370	4
Cedar				7%	.382	1.370	4
Date: April 15th.							
Oak	.0C	36.5%	35%	7%	.380	1.366	3
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	4
MDF				7%	.383	1.375	5
Mahogany				7%	.382	1.370	4
Cedar				7%	.382	1.370	4
Date: April 16th.							
Oak	.6C	48%	36%	7%	.380	1.366	3
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	4
MDF				7%	.383	1.375	5
Mahogany				7%	.382	1.370	4
Cedar				7%	.382	1.370	4

Note: Moisture Content = Moisture Content of Mouldings

Month: April	**Week: 3rd.**	Appendix E - 14

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: April 17th.							
Oak	-.5C	57.5%	37%	7%	.380	1.366	3
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	4
MDF				7%	.383	1.375	5
Mahogany				7%	.382	1.370	4
Cedar				7%	.382	1.370	4
Date: April 18th.							
Oak	2.6C	57%	38%	6.5%	.380	1.365	2
Poplar				6.5%	.381	1.366	3
White Pine				6.5%	.381	1.368	3
MDF				6.5%	.383	1.375	5
Mahogany				6.5%	.382	1.369	3
Cedar				6.5%	.382	1.369	3
Date: April 19th.							
Oak	3.5C	78.5%	40%	6.5%	.380	1.364	2
Poplar				6.5%	.380	1.366	3
White Pine				6.5%	.381	1.367	3
MDF				6.5%	.383	1.375	5
Mahogany				6.5%	.381	1.369	3
Cedar				6.5%	.381	1.369	3
Date: April 20th.							
Oak	3.2C	58%	39%	6.5%	.379	1.364	2
Poplar				6.5%	.380	1.366	3
White Pine				6.5%	.381	1.367	3
MDF				6.5%	.383	1.375	5
Mahogany				6.5%	.381	1.369	3
Cedar				6.5%	.381	1.369	3
Date: April 21st.							
Oak	2.3C	70%	41%	7%	.379	1.364	2
Poplar				7%	.381	1.366	3
White Pine				7%	.381	1.367	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.369	3
Cedar				7%	.381	1.369	3
Date: April 22nd.							
Oak	2.3C	71.5%	41%	7%	.379	1.365	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: April 23rd.							
Oak	-1.6C	60.5%	39%	7%	.379	1.365	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: April 24th.							
Oak	2.3C	58%	38%	7%	.379	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: April 25th.							
Oak	3.2C	79.5%	40%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: April 26th.							
Oak	3.5C	69%	39%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: April 27th.							
Oak	2.2C	86%	41%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: April 28th.							
Oak	3.4C	84.5%	40%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: April 29th.							
Oak	4.5C	81.5%	41%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: April 30th.							
Oak	6.7C	71.5%	40%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3

Note: Moisture Content = Moisture Content of Mouldings

Month: May	Week: 1st.

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: May 1st.							
Oak	8.5C	61.5%	39%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 2nd.							
Oak	9C	40.5%	38%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 3rd.							
Oak	10.3C	44%	37%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 4th.							
Oak	11.1C	48.5%	37%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 5th.							
Oak	7.9C	72.5%	39%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 6th.							
Oak	6.9C	46%	38%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 7th.							
Oak	5.8C	37%	36%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3

Note: Moisture Content = Moisture Content of Mouldings

Month: May	Week: 2nd.	

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: May 8th.							
Oak	7.6C	37%	36%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 9th.							
Oak	10.1C	56%	37%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 10th.							
Oak	8.8C	87.5%	39%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 11th.							
Oak	9.5C	84.5%	38%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 12th.							
Oak	13.9C	61.5%	37%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 13th.							
Oak	16.1C	53%	36%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 14th.							
Oak	11.1C	77%	38%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: May 15th.							
Oak	11.7C	58.5%	37%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 16th.							
Oak	8C	68%	38%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 17th.							
Oak	10.4C	68.5%	38%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 18th.							
Oak	10.4C	56%	37%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 19th.							
Oak	8C	64%	38%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 20th.							
Oak	11.1C	63%	37%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 21st.							
Oak	8.2C	72.5%	39%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3

Note: Moisture Content = Moisture Content of Mouldings

Month: May	Week: 4th. [Information not available]

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: May 22nd.							
Oak							
Poplar							
White Pine							
MDF							
Mahogany							
Cedar							
Date: May 23rd.							
Oak							
Poplar							
White Pine							
MDF							
Mahogany							
Cedar							
Date: May 24th.							
Oak							
Poplar							
White Pine							
MDF							
Mahogany							
Cedar							
Date: May 25th.							
Oak							
Poplar							
White Pine							
MDF							
Mahogany							
Cedar							
Date: May 26th.							
Oak							
Poplar							
White Pine							
MDF							
Mahogany							
Cedar							
Date: May 27th.							
Oak							
Poplar							
White Pine							
MDF							
Mahogany							
Cedar							
Date: May 28th.							
Oak							
Poplar							
White Pine							
MDF							
Mahogany							
Cedar							

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: May 29th.							
Oak	12.4C	80%	39%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 30th.							
Oak	17.9C	57%	37%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: May 31st.							
Oak	20.5C	51%	37%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: June 1st.							
Oak	19.4C	54%	38%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: June 2nd.							
Oak	19.7C	56.5%	40%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: June 3rd.							
Oak	16.4C	41%	44%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: June 4th.							
Oak	16C	45.5%	47%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3

Note: Moisture Content = Moisture Content of Mouldings

Month: June	Week: 1st.

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: June 5th.							
Oak	19.4C	57.5%	50%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: June 6th.							
Oak	20.1C	55.5%	52%	7%	.380	1.366	2
Poplar				7%	.381	1.367	3
White Pine				7%	.381	1.369	3
MDF				7%	.383	1.375	5
Mahogany				7%	.381	1.370	3
Cedar				7%	.381	1.370	3
Date: June 7th.							
Oak	9.8C	72.5%	54%	7.5%	.379	1.367	2
Poplar				7.5%	.380	1.368	3
White Pine				7.5%	.381	1.370	3
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.381	1.371	3
Cedar				7.5%	.381	1.371	3
Date: June 8th.							
Oak	9.3C	49.5%	54%	7.5%	.381	1.368	2
Poplar				7.5%	.381	1.369	3
White Pine				7.5%	.381	1.370	3
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	3
Cedar				7.5%	.381	1.371	3
Date: June 9th.							
Oak	12.3	61%	55%	7.5%	.381	1.368	2
Poplar				7.5%	.381	1.369	3
White Pine				7.5%	.381	1.370	3
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	3
Cedar				7.5%	.381	1.371	3
Date: June 10th.							
Oak	11.9C	74%	56%	7.5%	.381	1.368	2
Poplar				7.5%	.381	1.369	3
White Pine				7.5%	.381	1.370	3
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	3
Cedar				7.5%	.381	1.371	3
Date: June 11th.							
Oak	11.7C	80%	57%	7.5%	.381	1.368	2
Poplar				7.5%	.381	1.369	3
White Pine				7.5%	.381	1.370	3
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	3
Cedar				7.5%	.381	1.371	3

Note: Moisture Content = Moisture Content of Mouldings

Wood Type	Outside Temp.	Outside Humidity	Inside Humidity	Moisture Content	Main Groove Size [inches]	Distance Between Grooves [inches]	Effort to Remove [1 L. - 10H.]
Date: June 12th.							
Oak	13.7C	60%	56%	7.5%	.381	1.368	2
Poplar				7.5%	.381	1.369	3
White Pine				7.5%	.381	1.370	3
MDF				7.5%	.383	1.375	5
Mahogany				7.5%	.382	1.371	3
Cedar				7.5%	.381	1.371	3
Date: June 13th.							
Oak	15.1C	67.5%	57%	8%	.382	1.369	4
Poplar				8%	.382	1.370	4
White Pine				8%	.382	1.371	4
MDF				8%	.383	1.375	5
Mahogany				8%	.382	1.372	5
Cedar				8%	.381	1.372	5
Date: June 14th.							
Oak	14.1C	46%	56%	8%	.382	1.369	4
Poplar				8%	.382	1.370	4
White Pine				8%	.382	1.371	4
MDF				8%	.383	1.375	5
Mahogany				8%	.382	1.372	5
Cedar				8%	.381	1.372	5
Date: June 15th.							
Oak	16.9C	40%	55%	8%	.383	1.369	4
Poplar				8%	.382	1.370	4
White Pine				8%	.382	1.371	4
MDF				8%	.383	1.375	5
Mahogany				8%	.382	1.372	5
Cedar				8%	.381	1.372	5
Date: June 16th.							
Oak	20.2C	54%	56%	8%	.382	1.369	4
Poplar				8%	.382	1.370	4
White Pine				8%	.382	1.371	4
MDF				8%	.383	1.375	5
Mahogany				8%	.382	1.372	5
Cedar				8%	.381	1.372	5
Date:							
Oak							
Poplar							
White Pine							
MDF							
Mahogany							
Cedar							
Date:							
Oak							
Poplar							
White Pine							
MDF							
Mahogany							
Cedar							

Note: Moisture Content = Moisture Content of Mouldings

Room -		B	Description -									Living Room	
Window	Job-	Room-	Piece-	Inside Measurement			Reveal	Width of Trim		Length of Trim		Identification	Window
1	J-	B-	T-	Width	40	3/8	1/4	2	3/4	46.375	46 3/8	B-J-T-1	1
1	J-	B-	B-	Width	40	3/8	1/4	2	3/4	46.375	46 3/8	B-J-B-1	
1	J-	B-	L-	Height	65	7/16	1/4	2	3/4	71.438	71 7/16	B-J-L-1	
1	J-	B-	R-	Height	65	7/16	1/4	2	3/4	71.438	71 7/16	B-J-R-1	
2	J-	B-	T-	Width	40	3/8	1/4	2	3/4	46.375	46 3/8	B-J-T-2	2
2	J-	B-	B-	Width	40	3/8	1/4	2	3/4	46.375	46 3/8	B-J-B-2	
2	J-	B-	L-	Height	65	7/16	1/4	2	3/4	71.438	71 7/16	B-J-L-2	
2	J-	B-	R-	Height	65	7/16	1/4	2	3/4	71.438	71 7/16	B-J-R-2	
3	J-	B-	T-	Width	22	5/16	1/4	2	3/4	28.313	28 5/16	B-J-T-3	3
3	J-	B-	B-	Width	22	5/16	1/4	2	3/4	28.313	28 5/16	B-J-B-3	
3	J-	B-	L-	Height	65	3/8	1/4	2	3/4	71.375	71 3/8	B-J-L-3	
3	J-	B-	R-	Height	65	3/8	1/4	2	3/4	71.375	71 3/8	B-J-R-3	
4	J-	B-	T-	Width	22	5/16	1/4	2	3/4	28.313	28 5/16	B-J-T-4	4
4	J-	B-	B-	Width	22	5/16	1/4	2	3/4	28.313	28 5/16	B-J-B-4	
4	J-	B-	L-	Height	65	3/8	1/4	2	3/4	71.375	71 3/8	B-J-L-4	
4	J-	B-	R-	Height	65	3/8	1/4	2	3/4	71.375	71 3/8	B-J-R-4	
5			T-	Width								T-5	5
5			B-	Width								B-5	
5			L-	Height								L-5	
5			R-	Height								R-5	
6			T-	Width								T-6	6
6			B-	Width								B-6	
6			L-	Height								L-6	
6			R-	Height								R-6	
7			T-	Width								T-7	7
7			B-	Width								B-7	
7			L-	Height								L-7	
7			R-	Height								R-7	
8			T-	Width								T-8	8
8			B-	Width								B-8	
8			L-	Height								L-8	
8			R-	Height								R-8	
Door	Job	Room	Piece	Inside Measurement			Reveal	Width of Trim		Length of Trim		Identification	Door
1	J-	B-	T-	Width	60	1/16	1/4	2	3/4	66.063	66 1/16	B-J-T-1	1 outside
1	J-	B-	L-	Height	92	3/4	1/4	2	3/4	95.750	95 3/4	B-J-L-1	
1	J-	B-	R-	Height	92	3/4	1/4	2	3/4	95.750	95 3/4	B-J-R-1	
1	J-	B-	T-	Width	60	1/16	1/4	2	3/4	66.063	66 1/16	B-J-T-1	1 inside
1	J-	B-	L-	Height	92	3/4	1/4	2	3/4	95.750	95 3/4	B-J-L-1	
1	J-	B-	R-	Height	92	3/4	1/4	2	3/4	95.750	95 3/4	B-J-R-1	
2			T-	Width								T-2	2
2			L-	Height								L-2	
2			R-	Height								R-2	
3			T-	Width								T-3	3
3			L-	Height								L-3	
3			R-	Height								R-3	
4			T-	Width								T-4	4
4			L-	Height								L-4	
4			R-	Height								R-4	

Plastic Corners - Windows	16
Plastic Corners - Doors	4
Plastic Extensions	4

Appendix G - 1

NORTHERN ONTARIO Business

Construction '96

Simply "trim-endous"

Wood trim catches on

BY DON UMPHERSON
For Northern Ontario Business

Bryan Wilson was installing trim around the windows and doors of his Espanola home, about seven years ago, when he decided there had to be a better way.

Fed up with unsightly nail marks, hairline cracks and hammer marks on interior trim, the woodworker and craftsman put his mind to developing an innovative approach to a conventional system.

He has never looked back.

His "Versatrim" product is poised to revolutionize the wood trim industry and become a multi-million-dollar enterprise.

"I like a challenge, and I've never had quite as much of a challenge before in my life," Wilson says.

He says Versatrim is the product of seven years of research, experimenting, refining and marketing. His answer to the headaches involved in installing wood trim is so simple, he was astonished to learn the product was not already on the market.

He recalls thinking, "If it's this good, it must already be out there."

Instead of attaching door and window trim with finishing nails and risking marring the trim, Versatrim uses plastic moulds which fit around the door and windows. Then the actual wood trim fits to the mould through a series of grooves and ridges. Nails and hammers are a thing of the past — the plastic mould screws onto door and window frames. The trim itself is mahogany or pine and can be easily "popped" off the plastic mould for prefinishing or refinishing without ripping nails from the frame.

Wilson says this novel approach was in part inspired by the way trim and moulding are affixed to vehicles by a series of clips which hold the trim from the inside.

He moved from the conceptual design phase to a rough prototype in which he trimmed his kitchen. Satisfied with the result, he set about refining and adapting it.

Then began years of leg work — developing and marketing Versatrim, obtaining patents and registering trademarks, hiring lawyers and market researchers and convincing skeptical government agencies to invest. He has paid thousands of dollars to register the Versatrim name and even the Versatrim slugline: "Simply Trimendous."

Wilson's devotion to generating interest in Versatrim has taken him to trade shows across North America and wood trim manufacturers' conventions. He has amassed a book of contacts while networking within the industry.

To his amazement, all the trim displays at the home shows he attended were still being nailed into place the conventional way. And his desire to promote his product eventually led him to the Innovation Centre in Waterloo.

Wilson describes the Waterloo team's response as "mediocre."

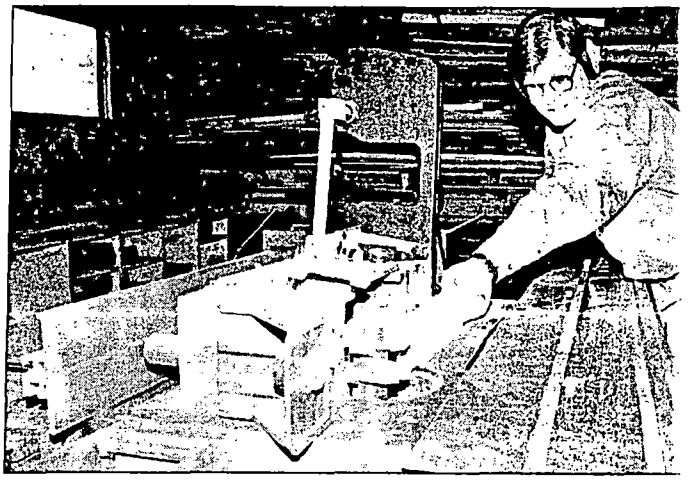
"They thought it was going to fall off the wall."

He next appealed to the Industrial Research Assistance Program (IRAP) for some preliminary market research and assessment.

Wilson says IRAP encouraged him to patent Versatrim and in 1992, at a cost of approximately $40,000, he received patent protection in Britain, the United States and most of Europe through the European Co-operative Treaty.

He was also encouraged by IRAP's prediction that Versatrim could fall within the two per cent of new products that eventually achieve success.

"They felt there was a market there for the



Bryan Wilson of Espanola cuts some lengths of his new product, Versatrim. The pr
been patented in North America and Europe and is about to enter a multi-million-dolla

do-it-yourselfer," Wilson says, adding he was disappointed that they were overlooking the value of his produce to building contractors.

While conceding that Versatrim is slightly more expensive than conventional trim, Wilson says it takes less time to install, hence lower labor costs. And with approximately 200,000 interior doors manufactured every day in North America alone, that translates into big savings.

Wilson was successful in obtaining some financial help from FedNor for equipment, market research and labor costs to fine-tune Versatrim and make it more appealing to the contractor. Some sophisticated wood-working machinery was imported from Europe.

Last year Wilson convinced the administrators at IRAP to send him to Alberta as the Canadian delegate to the Wood Moulding and Millwork Producers' Association.

He also attended the Home Hardware and Home Improvement Show and the Sash and Door Show in Boston, all the while promoting Versatrim, cultivating possible distributors and investors. This summer he plans another trade show in Victoria, B.C of finding demonstrators for his prod

"I think that'll be a big step," he s

Now prepared to introduce V across the continent, Wilson says hurdle comes in the form of distrib licensing.

He says FedNor has sugge manufacture and distribute Versatri factory in Espanola. His legal advi told him Versatrim is worth over tw dollars in licensing agreemen distributors.

"There's going to be some very decisions very shortly," Wilson says.

He says Versatrim has the potenti international market in countries such where Canadian modular homes are and where Canada is respected progressive technology in the housing

"I think on an international scene, like Versatrim would be well received of Canada's reputation."