Activation of the repetition feature in the design of glass spaces for the architecture

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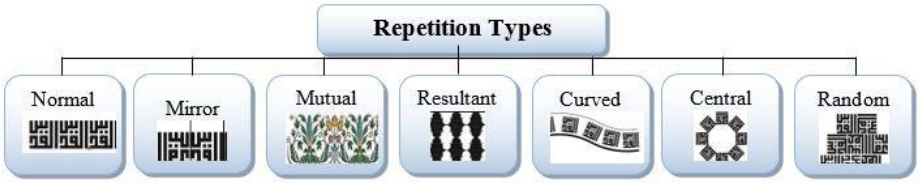
Summary:

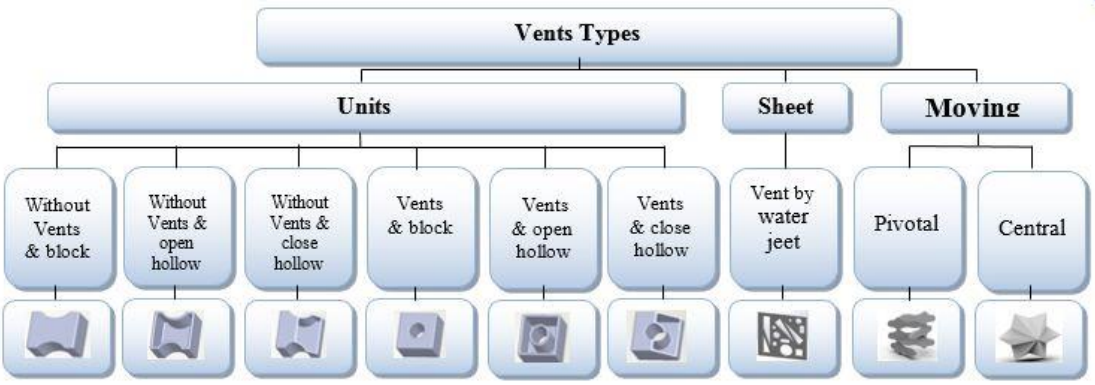
Despite the emergence of vents in modern architecture, but they have an ancient historical heritage that has appeared in the use of old mashrabiya (bay), so the research tends to link between the past and the present using new vents, the texture of the glass depends on the property of repetition in its design.so **Research problem:** How to activate the feature of repetition in creating a vacuum and benefit from it in designing glass vents used in architecture? The **Research objective:** Finding a strategy to design glass vents to be used in architecture by activating the feature of repetition.

research importance: Study of creative designs that achieve various alternatives according to activating the feature of repetition of glass products having the characteristics of originality and contemporary use in modern architecture.

First: a study of what repetition is: Repetition means multiple use of an item by placing it in different places to obtain multiple and varied design alternatives.

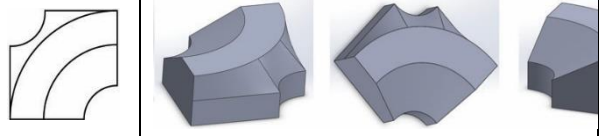
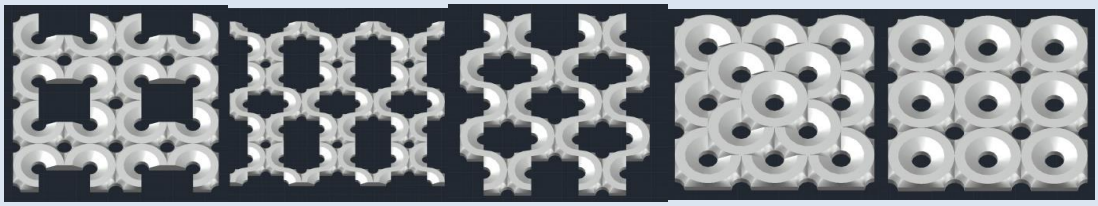
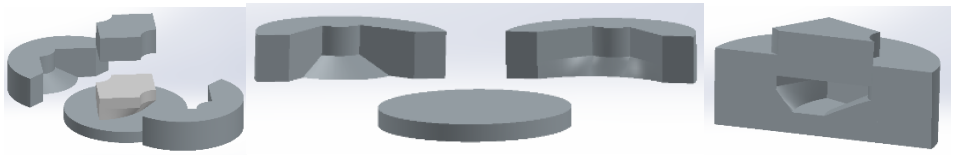
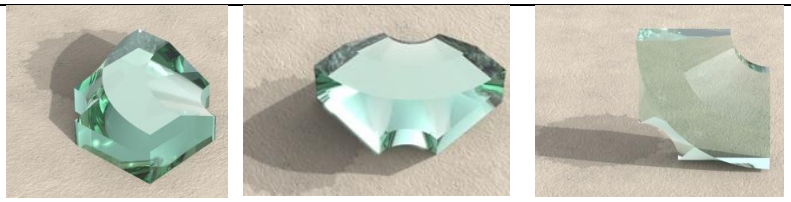
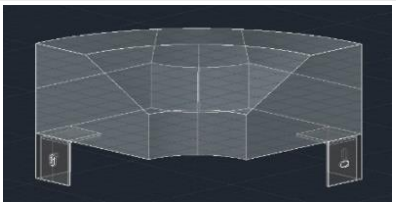
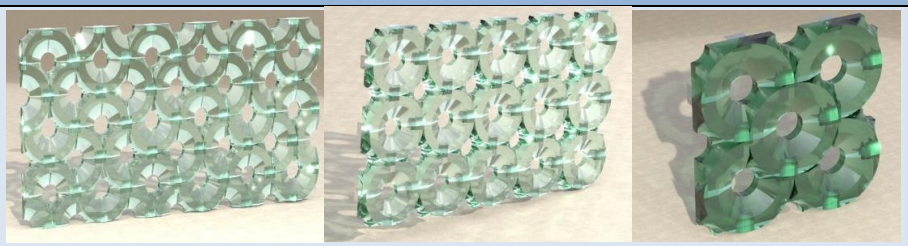


Second: a study Vents Types: vents mean: Each product contains voids within a specific decoration, whether they are emptied before or after production or as a result of the assembly of its parts.



DOI:10.21608 /mjaf.2020.21264.1434

Third: Design Study for Reiterated Units of Glass Vents:

<table>
<tr><th colspan="3">The First Empirical Model for Glass Vents</th></tr>
<tr><td>Vent Type</td><td colspan="2">Vent units … solid units …. Non hollow (block)</td></tr>
<tr><td>Design Idea</td><td>The idea in its outward form on a square with a semicircle and subtracting a quarter from two opposite angles.</td><td>  </td></tr>
<tr><th colspan="3">Structural design experiments for a unit</th></tr>
<tr><td colspan="3">  </td></tr>
<tr><th colspan="3">Idea for mold design</th></tr>
<tr><td>Mold Parts</td><td colspan="2">  </td></tr>
<tr><td>Glass Unit</td><td colspan="2">  </td></tr>
<tr><th colspan="3">A proposal to fix glass unit</th></tr>
<tr><td>Installation idea</td><td colspan="2">Fixing accessories tools by sticking on glass unit with UV. radiation, then fixing them with metal structure.</td></tr>
<tr><td>Accessories tools</td><td colspan="2"> 
  </td></tr>
<tr><th colspan="3">The glass unit after fixing and collecting</th></tr>
<tr><td colspan="3">  </td></tr>
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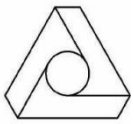
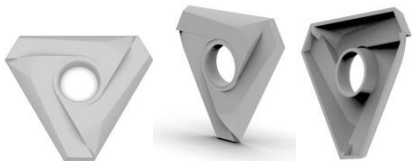
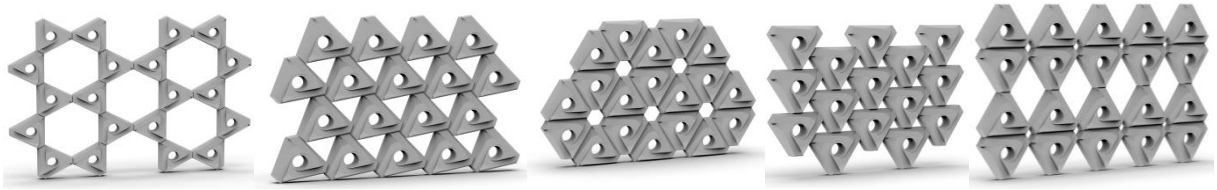
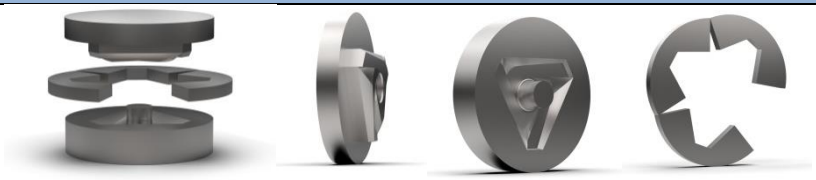
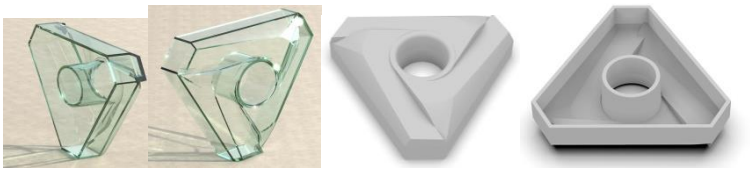
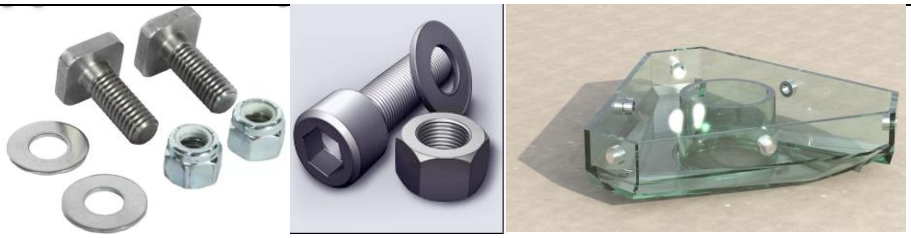
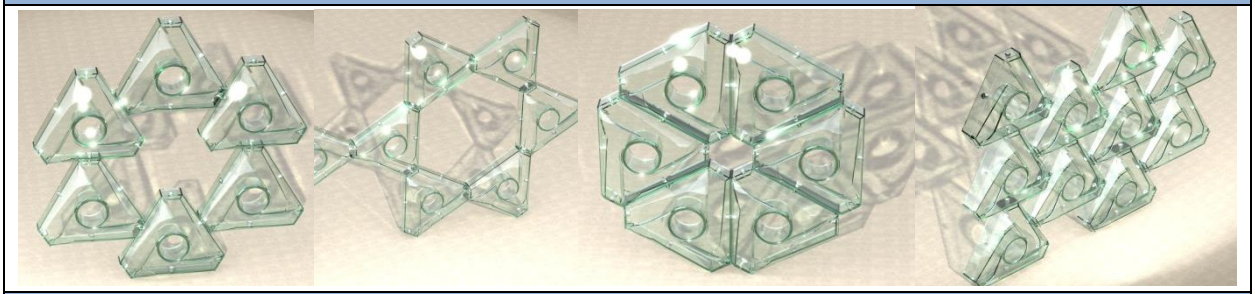
Application of glass vents unit in architecture	
	
In door	**Out door**

The Second Empirical Model for Glass Vents			
Vent Type	**Vent units … hollow unit**		
Design Idea	The idea in the form of a triangle that has a circular vent in the middle and removal of the equilateral triangle from its three angles.		
Structural design experiments for unit			
			
Idea for mold design			
Mold Parts			
Glass Unit			
A proposal to fix glass unit			
Installation idea	Using accessories tools from bolds for fixing glass units together, then fixing them with metal structure.		
Accessories tools			

The glass unit after fixing and collecting



Application of the glass vents unit in architecture

In door

Out door

Results:

1- Finding types of glass vents (unit, sheets, moving).

2- Activate the feature of redundancy in the design of glass vents with the ability to achieve different design alternatives with multiple building systems.

3- Finding a strategy to design glass vents that is applicable in contemporary architecture.

4- Finding a method for fixing the glass vent that achieves the various iterative design alternatives.

Recommendations:

1- The application of the subject of the study within the curricula of the architectural glass design program, as the labor market needs it.

2- Completing the research system in the fields of design and production of all kinds of glass vents and mass production.

3- The necessity of producing glass vents quantitatively, entering the local and international markets and applying them in internal and external architecture as a functional and aesthetic requirement.

4- Conducting joint research between the scientific specialization and glass production factories due to the presence of many related professional problems.

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