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Disclosure

Unscannable items
received with this application
(Request original documents in File Prep. Section on the 10th Floor)

Documents reçus avec cette demande ne pouvant être balayés
(Commander les documents originaux dans la section de préparation des dossiers au 10ième étage)

Provisional Patent Application Outline

Summary of the Invention - This invention is directed generally to a mat for holding liquid in a way that inhibits the liquid from coming in contact with objects that rest on the mat.

The mat consists of a number of individual cells, which are formed in an overall unitary structure. The mat consists of a continuous perimeter wall and a number of internal individual cells, which are formed in a side-by-side grid formation. Separating each cell is an internal wall and formed in each internal wall is a distribution channel.

The channel permits fluid contained in one cell to pass from that cell to an adjacent cell once the fluid level in the cell is above the level of the channel. The channels are formed part way up the cell walls to permit each cell to contain a predetermined amount of liquid. The channels are formed deep enough in the wall to establish a low enough liquid level in the cell to limit the likelihood of an object passing over the mat to come into contact with the fluid in the cell.

The walls between adjacent cells are also specially designed. In addition to having the flow-through channels discussed above, the walls are made thick enough to support significant loads. The walls taper, almost to a point, at their upper edge. A small flat part is preferably formed along part of the top of the wall (see the darkened crosses in the Figure 3). The tapered upper edge reduces the area of surface contact between an object coming into contact with the mat and the mat itself. Further, the use of a tapered upper surface means that the amount of liquid transferred from the mat to an object in contact with the mat is very much reduced, compared to a mat having purely horizontal upper surfaces. This reduced surface contact area reduces the amount of liquid transferred to the object contacting the mat.

Ideally, the mat would be molded from a recycled rubber, obtained for example, from automobile tires. The molded rubber would be relatively strong and the cell dimensions would be sufficient so that the weight of, for example a car, could be supported on the internal walls of a large number of cells without substantial deformation. In this way, the object on the surface of the mat would be kept spaced apart from the liquid captured by the individual cells in the mat.

One use of the liquid-containing mat is believed to be as an automobile mat to capture automotive fluids that might otherwise leak onto driveways, garages and the like. The liquid-containing mat could be used in residential or industrial settings to contain liquid and prevent automotive or other fluids from staining or otherwise harming surfaces. As will be understood, the fluid collected by the mat will also be kept out of contact from objects passing over the mat, meaning that even after a spill a person could walk or drive over the mat without tracking the spilled liquid all over the place.

The cell size can be varied, depending upon the load being supported, although one-inch-square cells are believed suitable for most applications. Other applications include indoor car mats.

To form the invention, all that is required is to mold the cells into the surface of a mat, cool the molded mat, and then ship the mat to customers. Most preferably, these cells are all formed at the same time as a single unitary structure. The mat may be of any overall dimensions – though a 37" square mat, 7/8 of an inch high is believed to provide reasonable results.

In summary, the key features are a liquid-containing mat comprising:

> a continuous outer or perimeter wall;
> a plurality of individual cells inside of said perimeter wall and having internal walls wherein said internal cell walls have a tapered upper surface to limit a contact area between an object resting on said mat and said mat; and
> a distribution channel in each of said internal cell walls between adjacent cells, said distribution channels being high enough in the wall to capture a predetermined amount of liquid in the cell, and low enough so an object resting on top of said internal cell walls is spaced out of contact from any such captured liquid.

In addition, the perimeter wall is preferably somewhat thicker and has a flat upper surface.

DETAILED DESCRIPTION

The "Cell" and "Cell Mat" - Introduction
A "Cell" is a depression in a horizontally lying, material body, that when connected to other such cells within the surface of that body, allows for the transfer, control and management of fluids stored upon that body. A Cell Mat is a stamp molded, rubber mat employing the "Cell" concept, whose purpose is to contain and control the storage of varying volumes of fluid, as they are applied to its uppermost, or contact surface.

Although the Cell Mat was designed to consider the requirements of numerous fluid control applications, the two primary uses for which the Cell Mat concept was designed is that of the control of automotive fluid leaks (under a vehicle/as experienced when a vehicle comes to rest, after having been operated), or the containment and management of water, slush or debris on an automobiles passenger compartment's floor surfaces.

Figure 1 - The Cell Mat and Automotive Fluid Leaks:
When a Cell Mat is laid down on a surface beneath the point where the automobile is leaking, the Cell Mat becomes an appliance designed specifically for the collection of any fluid leak it may experience. It may also be employed for use when servicing a vehicle where spillage of fluids may occur. The design of the interconnected cells of the mat's upper surface allows for the management of automotive fluids of varying viscosities, and in varying volumes. Testing of the mat has shown that should a reasonable volume of fluid (oil/other) be spilt directly onto the surface of the mat, one could, within a brief period of time, walk or drive over the mat, without transferring the mat's contents to either surface with which it makes contact.

Figure 2 - Dimensions of the Cell Mat:
With the variable size of each Cell Element within a given mat body, a Cell Mat can be easily dimensionalized to accommodate the various wheelbases of all domestic or imported vehicles. As well, this concept also allows for the production of Cell Mats as "Bed-liner" fluid drop surfaces, for all domestic and imported pick-up trucks. Such incremental variations also allow for the efficient shipping of the Cell Mat via shipping pallets. The length and width measurements of finished Cell Mats will vary, depending on their planned usage.

Material Composition:
The projected material composition for the Cell Mat is rubber based, ideally from recycled tires.

Figure 3 – Cell Mat - Design Features & Function:
Figure 3 shows a small section of "Cell Fluid Wells" from both, a Plan (upper illustration) and Cross-sectional (lower illustration) viewpoint. In the cross-sectional view, we can see how fluid spilled on the mat acts to migrate from one Cell Fluid Well to another (via the Distribution Channels/once a given cell has reached its carrying capacity). The secret of how the Cell Mat prevents a tire or any other contact surface from coming in contact with the spilled material is held with the design of the partitions separating each Cell Fluid Well. Because the partitions are pointed in cross-section, each partition has a minimal surface area on which to collect fluid. As well, the partitions are designed to direct potential spills down into their respective fluid collection wells (Cell Reservoirs), and away from the mats contact surface. In addition to the efficiency of the partitions in conveying spills, they are also designed specifically to provide an elevational strength integrity to the mat [by preventing racking of each partition body (horizontally - left to right, or top to bottom)]. This means that the mat can support the standing weight of any automobile without flattening or distorting from its molded configuration. This ensures that should a consumer park their vehicle directly on top of the mat, the mat will still operate.

***Partition (Contact) Surfaces:** Illustrated in Figure 3 (upper figure) as black crosses on a gray background. They indicate the minimal contact surface the Cell Mat Partitions provide to their corresponding contact surfaces. This is the conceptual foundation which allows the Cell Mat to minimize the conveyance of liquids from the mats Cell Field, to surfaces in which it might come into contact. [*See* – Design Features, D]

***Cells adjacent to the Cell Mat's Perimeter Border have the same configuration as those within the "Cell Field".** The Perimeter Border acts to contain the fluid that would normally leak out from non-bordered Cell Distribution Channels, and as well, provides a visual esthetic for the finished look of the mat.

Figure 4 – Fluid Action within the Cell Mat:
Figure 4 shows a red circle superimposed on the mat. This red circle indicates the point of origin of a notional spill or leak as it comes into contact with the mat's surface. If a liquid were poured out onto the mat, the red circle would indicate its first point of contact with the mat. Extending from the red circle are red arrows. The red arrows indicate areas of high liquid volume flow from one cell to another (as they extend outward from the red circle/their point of origin). The areas of the fluid flow indicated in yellow, show the ever growing, yet low volume distribution of the liquid into cells surrounding the location of the spill or leak. The universal height of the base of each of the Cell Mat's Distribution Channels provides an equilibrium of fluid flow between each cell of the mat (given that the interrelating cells, contain equal volumes of fluid, and that each are at their carrying capacity). There is thus an even fluid distribution between cells.

Performance of the Cell Mat on sloped surfaces:
A Cell Mat is designed that should the ground the mat is sitting on be sloped, a minimum of two distribution channels per cell (within its Cell Field) will always be in operation, to convey fluids in or out of the given cells, to which such fluid containment applies. This makes the Cell Mat self-regulating with regard to the size of the spill it receives, and the slope on which the mat rests.

Symmetry of the Cell Mat and Cell Elements:
The Cell Mat is made up of a number of identically tooled/Cell Elements, arranged side by side, horizontally and vertically, to create the final Cell Mat configuration. Each cell element is symmetrical (top to bottom, left to right) and identical to all others within the entire Cell Mat, "Cell Field". The Cell Mat's "Cell Field", is framed with a perimeter border of an appropriate width as to provide the mat with a pleasing visual esthetic upon production. The Cell Mat, having a dimensionally symmetrical Cell Field, maintains a design symmetry, from top to bottom, and left to right. This means that no matter how the mat is laid down on its given surface, it will always perform to convey and contain fluids. [*See* – Performance of the Cell Mat on sloped surfaces (above)].

An important aspect of the invention is the design of the cells that create it's (the mat's) surface configuration ("Cell Field"), even apart from the mat itself. The "Cell Element" can be used in a number of applications where fluid containment and regulation is required.

Figure 5 – Symmetry of a Cell Element:
Figure 5 illustrates the symmetry of a single cell element in an overhead/Plan view. Whether designed to participate as a configuration within a Cell Mat, or to be applied for a similar purpose in other products, the "Cell", and the "Cell Field" it founds, will provide the maximum performance available for its given purpose.

Cell Element – Product Potential:
The design of the Cell Element allows the Cell Mat concept to be applied to many existing products. Some of these applications are...

1. Automotive leak or service mat
2. Reservoir for car mats.
3. Fluid collecting bed-liner for trucks.
4. Surface for the conveyance of fluids (in tile form/ Factory floors)
5. Entrance mat, boot mat, etc.

[*See* - Figure 1: Primary and Secondary Uses for the Cell Mat]

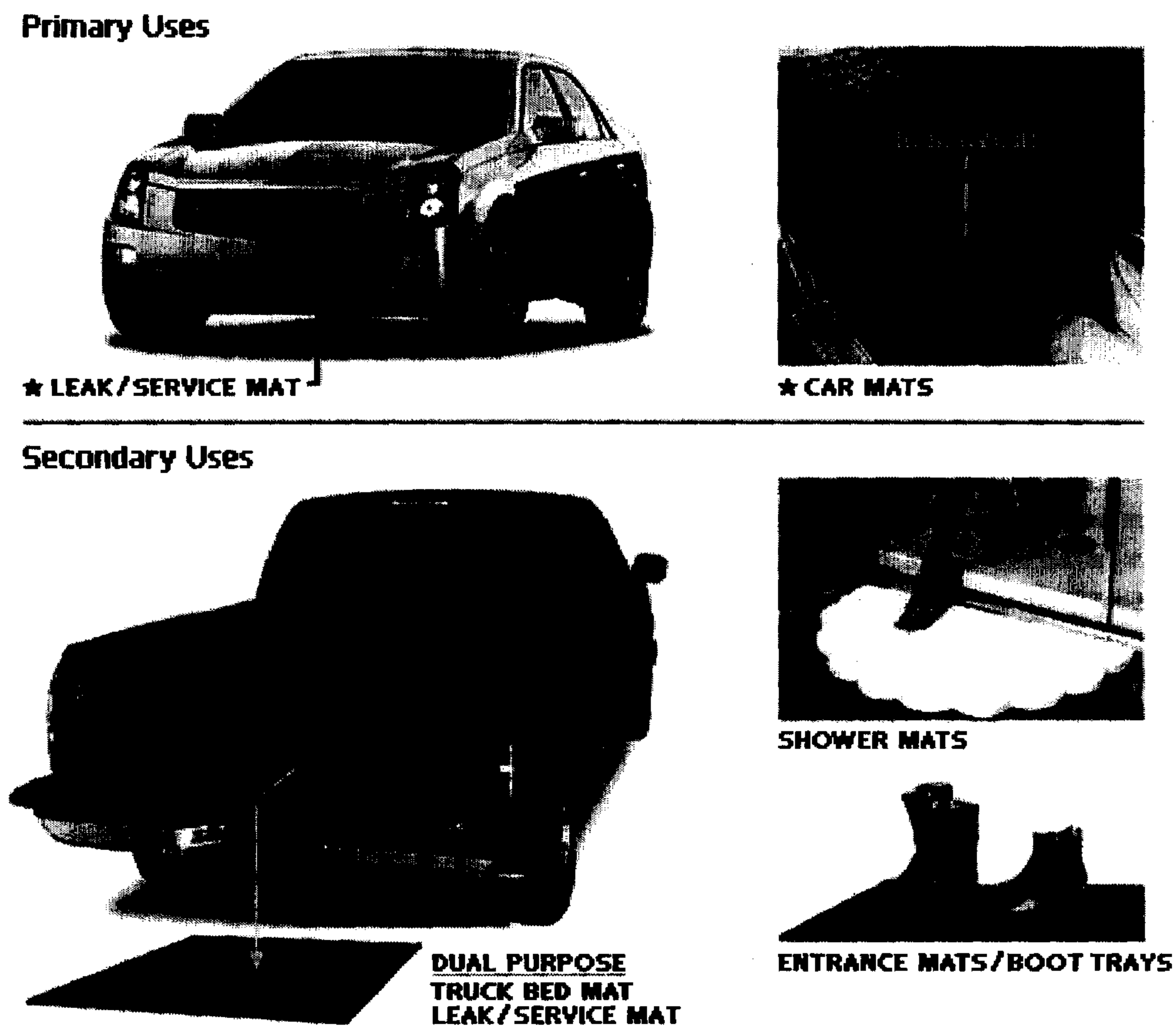
Description of Terms:
***Cell:** Cell Element; A single cell. A single cell within a Cell Field.
***Cell Fluid Reservoirs/Cell Wells:** Small reservoirs within each cell of a Cell Mat, which act to collect and store fluid.
***Cell Field:** A grouping of "Cell Elements", arranged in a rank and file fashion on a mat's surface, and bounded by a Perimeter Border.
***Perimeter Border:** A border around a Cell Field. A border which provides both, fluid containment for the Cell Field, and a finished esthetic to the Cell Mat.

Special Notes:
- All aspects of design relating to the Cell/Cell Element/Cell Mat are represented by a dimensional description alone. You will find these descriptions accompanying Figures 6 & 7.

Observation - Stains caused by automobile fluid leaks - Permanency:
It should be noted that automotive fluid leaks may cause stains on the surface with which they make contact, providing that surface (in most cases) is dry. If the Cell Mat were to be rained upon, it may (if having received enough rain,) (eventually) discharge some if its contents to the surface on which it rests. Let it be noted that with such dispensation, and under such conditions, there is no staining to the surface on which this occurs.

- A fluid reservoir can be manufactured within the body of the Cell Mat when the Cell Mat concept is produced to service an automotive fluid leak/spill or service requirement. The fluid reservoir would reside, evenly spaced between two mat corners, on one side of the mat. A cover would be placed over the reservoir to allow the area of the mat occupied by the reservoir to perform as does the rest of the mat. A fluid filter or drain plug may also be added to the reservoir of the Cell Mat. [*See* – Figure 2: #5, #6 and Design Aspects: #5, #6]

Figure 1 - Use of the "Cell" in manufactured products:
The number of potential "Cell"/ "Cell Field"/ "Cell Mat" related applications in industry, or for the consumer market, are too numerous to be effectively detailed within this presentation. Instead, this presentation will outline a number of primary and secondary uses for the Cell Mat concept, as seen below...

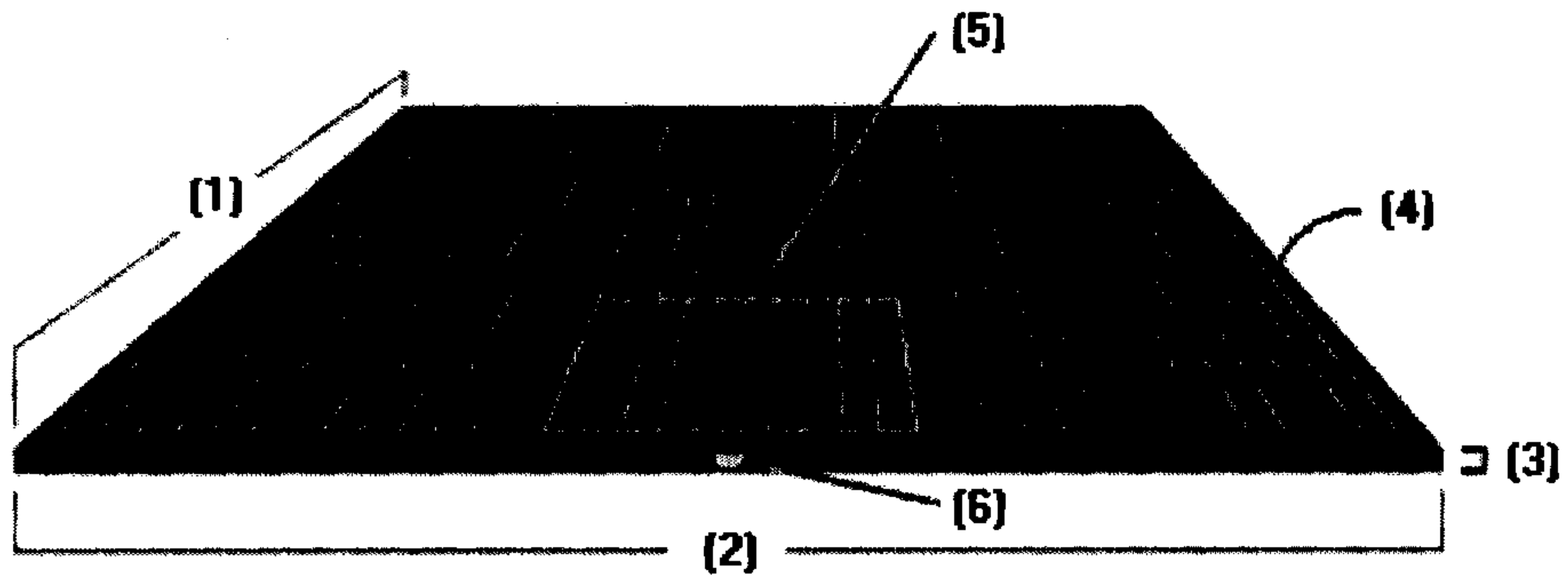


- **A Cell Field configuration may be adopted in the manufacture of floor surfaces** (Tile/One Piece) for wet environments.

A varying Partition Contour allows the surface of the Cell Mat to perform with a minimal contact surface (Leak or Service Mat: Figure 1/Primary Uses/Left), **or with maximum comfort** (Shower Mat: Figure 1/Secondary Uses/Middle). [*See* – Partition Contour/Design Aspects, #2, P.10.]
The design of the "Cell"/"Cell Element", together with its varying Partition Contour, allows the "Cell"/"Cell Mat" concept, to be applied to many existing consumer or commercial based products. Some of these applications are…

1. Creation of an automotive leak or service mat
2. Creation of the much required reservoir for car mats (Fig. 1/Primary Uses/Top right)
3. Creation of a fluid collecting bed-liner for pick-up trucks (Fig. 1/Secondary Uses/Bottom left)
4. Creation of a surface for the conveyance of fluids (in tile form/ Factory floors – Restaurants/ Commercial business entrances)
5. Residential Entrance Mats/Boot Mats or Bath Mats (Figure 1/Secondary Uses/Bottom right)

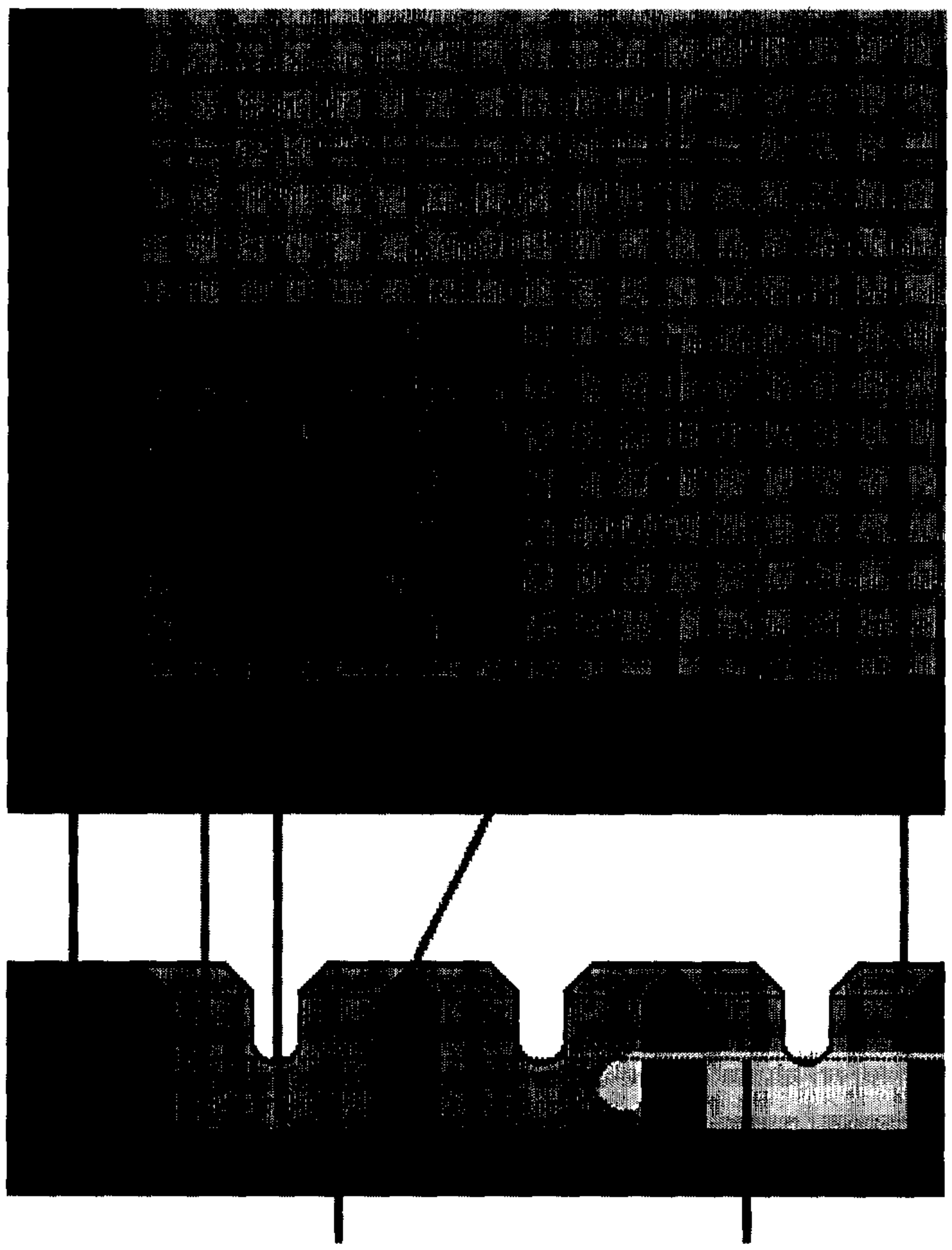
Figure 2: The "Cell Mat" with a Perimeter Border (Slab/Automotive Spill or Leak Collection Mat):



Dimensionality of a Cell Mat:
(1) The length of a Cell Mat [as illustrated by (1)] is determined by the number of cells employed in its cell fluid collection field ("Cell Field"). The number of cells in a given Cell Mat surface, is determined by the use for which the Cell Mat surface will be employed.
(2) The width of a Cell Mat [as illustrated by (2)] is determined by the number of cells employed in its cell fluid collection field ("Cell Field"). The number of cells in a given Cell Mat surface, is determined by the use for which the Cell Mat surface will be employed.
(3) The depth of a Cell Mat [as illustrated by (3)] is determined by the use for which the Cell Mat is employed. Generally, a Cell Mat's overall thickness is dimensionally proportional to the diameter of a single Cell Element, contained within the Cell Field.
(4) Perimeter Border: Applied to contain perimeter cell fluid emissions from unbordered Cell Distribution Channels; Fluid emissions that would flow freely out of Perimeter Cell Distribution Channels, without the presence of a Perimeter Border to contain them. The Perimeter Border also provides a finished esthetic for the Cell Mat, providing a visual transition between a Cell Field, and the surface on which the Cell Mat may lie.
(5) Reservoir/Reservoir Surface Cover: Fluid Reservoir designed to collect cell fluid traffic/ The area occupied by a cover over a Fluid Reservoir.
(6) Drain Hole: A Fluid Chase, usually connecting the innermost perimeter of the Reservoir, with the outermost perimeter of the Cell Mat's Perimeter Border. Used to drain the contents of the Fluid Reservoir.

To learn more about the design features and function of the/a "Cell"/"Cell Element", please proceed to Figure 3 of this presentation [Next].

Figure 3 – Cell Mat Surface/Design Features* (Upper Image – by Plan/Lower Image – by Profile): An illustration of the Cell Mat's Surface/Design Features, as they relate to a Cell Field, framed by a Perimeter Border/The various design aspects of The Cell relating to its function/How fluid flows from one Cell within a Cell Field, to another, via Distribution Channels



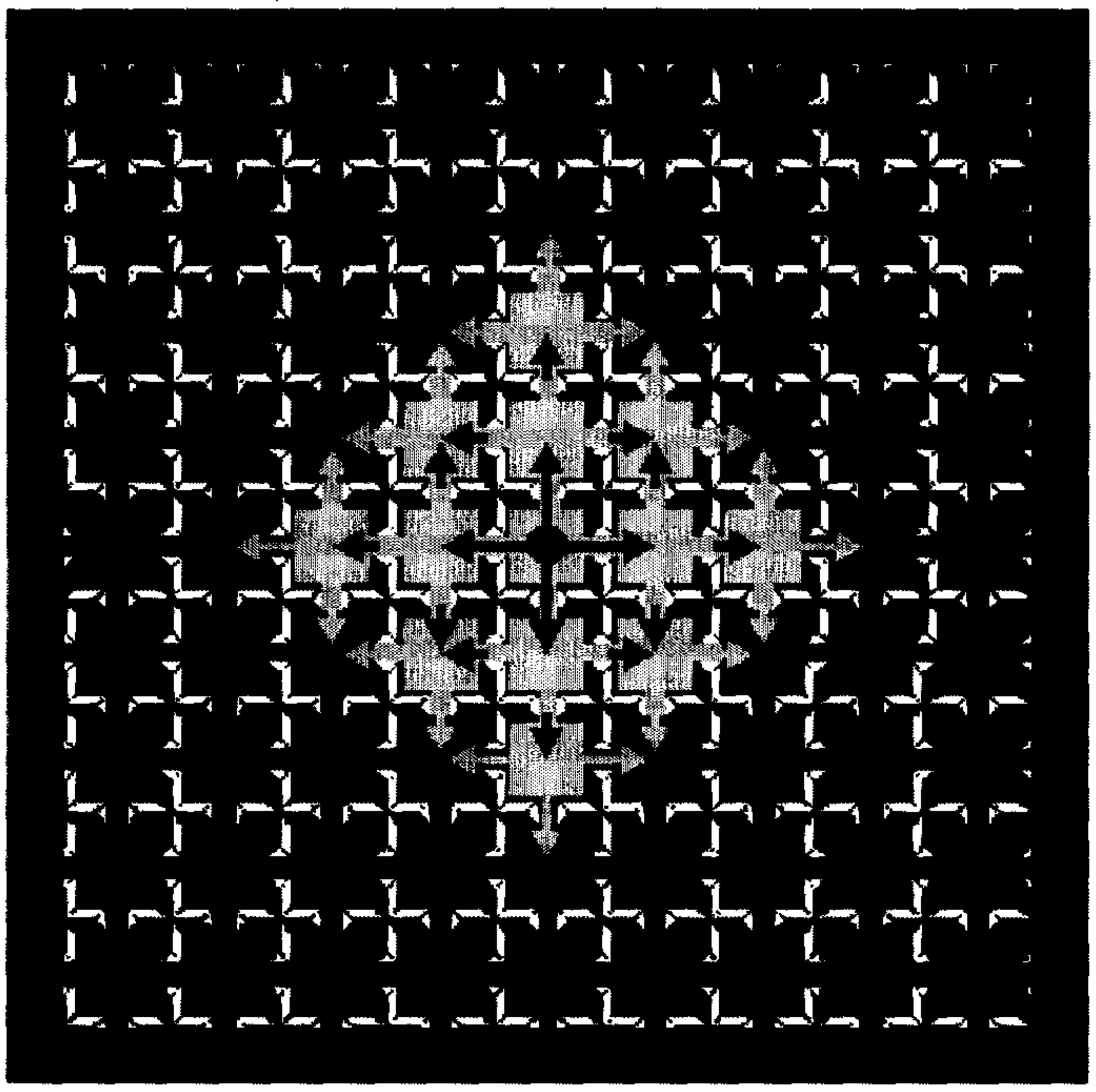
■ Partition Surfaces ▣ Fluid Traffic ■ Perimeter Border
■ Fluid Flow Level ■ Distribution Channels ■ Cell Fluid Well

* See - Design Features/P.9

Figure 3 shows a small section of "Cell Elements"/"Cell Fluid Wells" from both, a Plan (Figure 3/Upper Image) and Cross-sectional (Figure 3/Lower Image) viewpoint. In the Cross-sectional View, we can see how fluid spilled on the mat (in Yellow/Lower Image) acts to migrate from one Cell Fluid Well to another via Distribution Channels (once a given cell has reached its carrying capacity). The surface of the Partitions within the Cell Mat, Cell Field stay free of fluid contamination, due to their minimal surface area (Partition Surfaces/"Land"/As indicated by the black "Tees" on a gray background).

*Figure 3 (Upper Image/Lower Image), illustrates a 3.5" X 3.5" section of Cell Mat, as would be found in the lower left-hand corner of a Cell "Leak or Service Mat", should that mat be laid down in front of someone comparing the illustration, to the finished mat body.

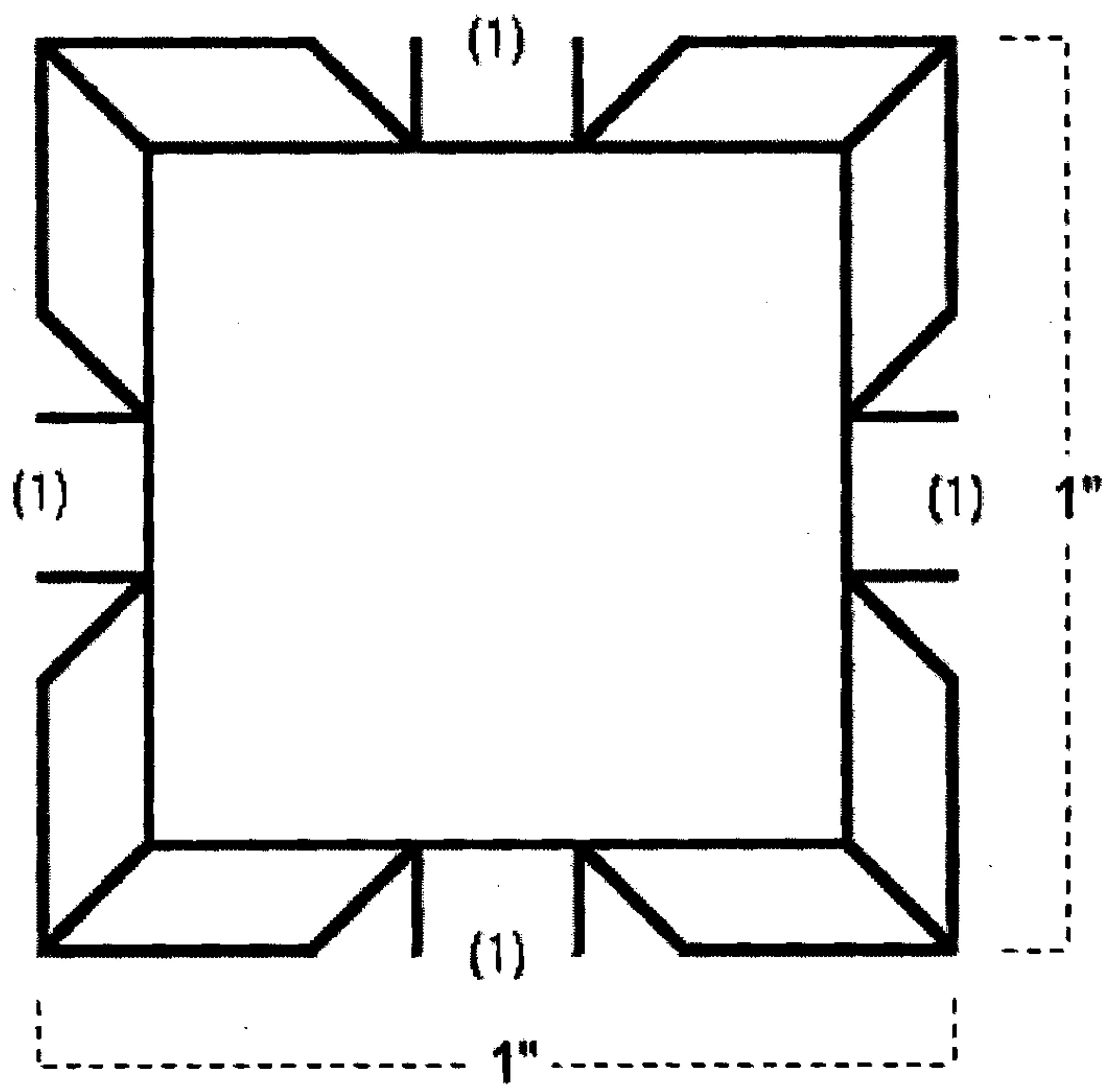
Figure 4 - Figure 4 illustrates the "Cell Mat", as if the mat were produced in a 10 inch square section (including its Perimeter Border). Fluid movement upon the Cell Mat's surface, is shown by the areas of red and yellow coloration within the "Cell Field" (below).



Color:
Red Circle - Origin of leak/spill upon the Cell Field.
Red Arrows – High volume fluid traffic from Cell to Cell within the Cell Field.
Yellow Field/Arrows – Dissemination of fluid from Cell to Cell as the Cell Mat's "Cell Field", directs excess cell fluid volumes to neighboring Cells.

Figure 5 - Symmetry of a Cell Element:
A simplified diagram of a single Cell Element, shown below, illustrates its symmetry from top to bottom, and left to right. When positioned in conjunction with other Cell Elements, its Distribution Channels (1) link each Cell Element, to neighboring cells within a Cell Field. Because only one cell is expressed by this illustration, the Distribution Channels are shown extending to the transition point between neighboring cells.

Cell Element - Symmetry



Figures 6 & 7 - The "Cell" – Dimensions by Description:
The following are descriptions for the dimensionality of the "Cell"/"Cell Element". These dimensions correspond to all square shaped cells within a Cell Mat's, "Cell Field".
*Due of the numerous product applications potentially addressed by the "Cell" concept, it would be impossible to apply a dimension to any of its design features, without first knowing the specific application for which it is applied. Instead, descriptive language is used in place of a fixed linear dimension, to describe the design feature or aspect observed. [*See* - Figures 6 and 7, Next page].

Note:
In figures 6 and 7, numbers replace the actual length of a given dimension. The numbers provided, act as reference numbers, coordinating what is seen on the diagram, with a written description of their dimension. This is done to accommodate the varying dimensions of the cell, given its diversity of product applications.

For the purpose of instant dimensional recognition, a one-inch (1") length was given the number 100. Any measurement less than one inch is given a number less than 100 (<100). Any dimension greater than one inch (1") is given a number greater than 100 (>100). The dimensions provided here are numerically spaced, allowing nine additional dimensions to be added between those provided.

Figures 6 & 7 - The "Cell" – Angles (Angularities)/**Design Features/Dimensional Aspects:**

Fig 6.

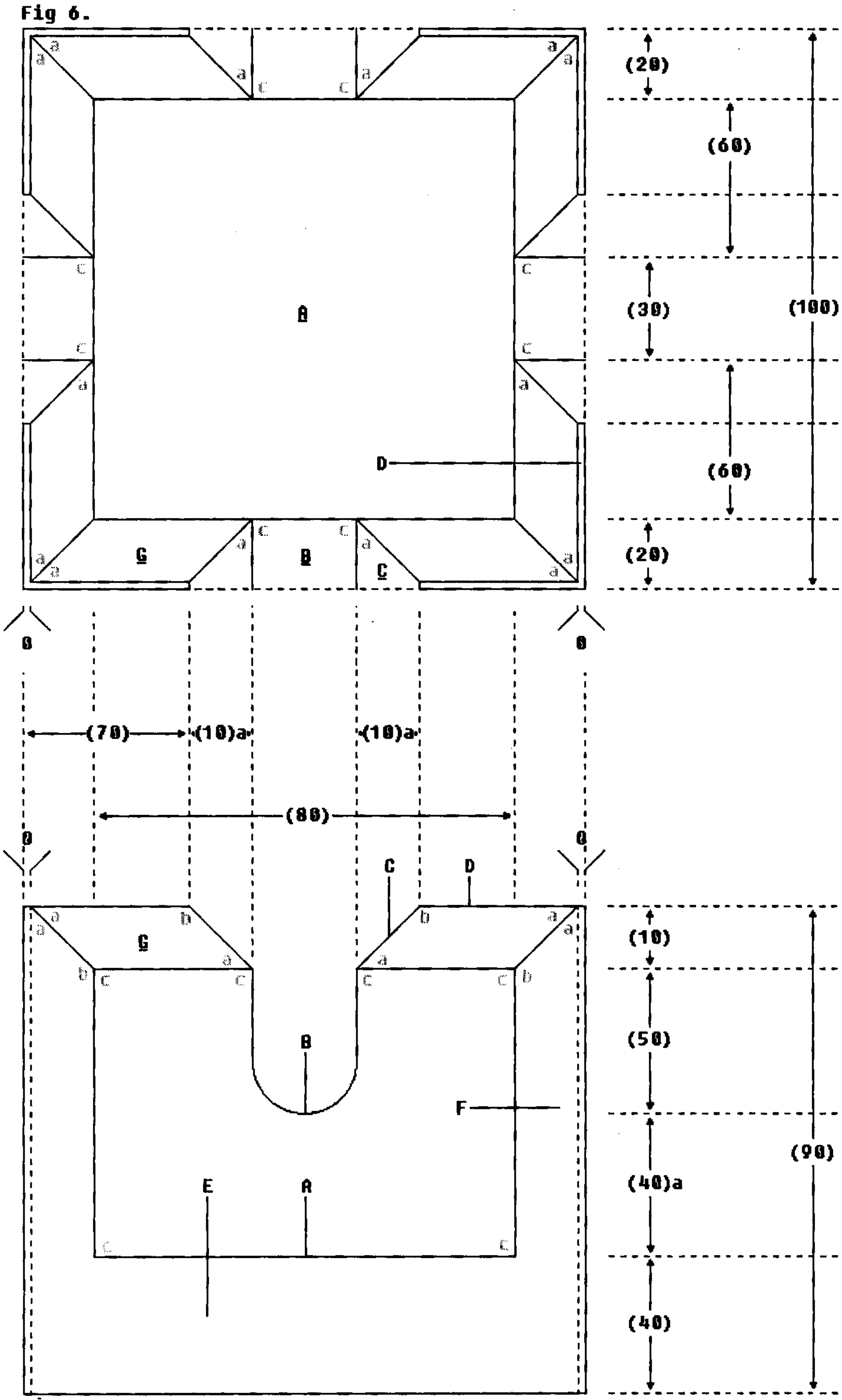


Fig 7.

Figures 6 & 7 (Previous Page):
Key Descriptions

Angles (Angularities)

a = 45 degrees
b = 135 degrees
c = 90 degrees

Design Features

A. Cell Well Floor: The lowest point of elevation within a Cell Well (reservoir). Variable by product applicaton.
B. Distribution Channel Floor: The lowest point of elevation within a Distribution Channel. Variable by product applicaton.
C. Angled Wall: The wall joining the highest point of elevation of a Cell Partition, to the highest point of elevation of a Distribution Channel's vertical wall, or to the highest point of elevation of a Cell Well wall; whichever is applicable.
D. Cell Partition Land: The area created at the highest point of elevation of a Cell Partition. The point of contact between a foreign body, and the surface of the Cell Field. This does not take into consideration the border, which frames a Cell Mat. Variable by product applicaton.
E. Base: The base of the Cell from which the Cell Partitons vertically extend. Cell Partitions and the border which frames a Cell Mat, are considered to originate from a horizontal line of elevation, intersecting the furthest point of vertical elevation of the Base of a Cell. This is not to imply that the Base of a Cell, and the physical features that extend vertically from it, are separate entities.
F. The Wall of the Cell: A width measurement, from the innermost wall of a Cell Well, outward and away from the center of the cell, in a direction running horizontally and perpendicular to the wall of the Cell Well from which it originated, to the nearest point on a line, intersecting vertically, the median of the nearest Cell Partition.
***1 - Partition Contour** [Not shown in Figures 6 & 7]: A term used to describe the profile of a Cell Partition Wall. This profile is seen extending vertically from a line originating at the intersection point of the Cell Wells vertical wall at its highest point of elevation, and extending in a direction horizontally and perpendicular to the walls surface, and through the partition to which the point of origin makes contact, to a given length, who's end point intersects a line extending vertically, and intersecting the point of convergence between the vertical wall of the neighboring Cell, and the Angled Wall to which it corresponds.
***2 - Base Drainage Hole(s)** [Not shown in Figures 6 & 7]: Cylindrically shaped passageway(s), located in the geometric center of (a) Fluid Cell Reservoir(s) [by Plan], which connect the fluid containment area of a Cell Fluid Well, with the lower surface of a Cell Mat. Cylindrically shaped passageway(s) which allow the fluid contents of a Cell Fluid Well, to drain from its location within the well, through, to the lower surface of the Cell Mat.

Dimensional Aspects

100. The length measurement of a Cell from the median (midpoint) of one Cell Partition to another, or from the (horizontal) center of one Distribution Channel to another. Variable by product application.
90. The thickness of a Cell Mat in total. A vertical measurement, from the lowest point of elevation of the Base of a Cell, to the highest point of elevation of a Cell Partition, as one measures vertically from the origin of the said measurement. Variable by product application.
80. A length measurement, extending perpendicular and horizontally from one vertical Cell Well wall to another. Variable by product application.
70. A length measurement, from the outermost corner of a Cell, to the point where the Cell's Partition land ceases, and the Angled Wall (joining the land of the Cell Partition with the vertical wall of a Distribution Channel) begins. Variable by product application.

60. A length measurement, from the point of convergence of two vertical Cell Well walls, and extending horizontally and parallel to the Base of the Cell, from that point of convergence, to the nearest vertical wall of either of the two corresponding Distribution Channels. Variable by product application.
50. A height measurement, from the lowest-most point of elevation of a Distribution Channel, vertically, to a point in space intersecting a line perpendicular to itself, and that line having a vertical elevation equal to that of a the point of convergence between the Angled Wall and vertical wall of the Distribution Channel to which the origin of such measurement corresponds. Variable by product application.
40a. A height measurement equal to the distance from the furthest most point of elevation of the Base, and extending vertically from that point, to a point of elevation equivalent to the intersection point between that line, and a line extending horizontally and perpendicular to that line, and at an elevation equivalent to that of the nearest Distribution Channel Floor.
40. A height measurement, equal to the measurement from the lowest-most point of elevation of the Base of a Cell, extending vertically to a point intersecting a line perpendicular to itself, and intersecting an elevation equivalent to that of the highest elevation of the Cells Base.
30. A horizontal width measurement from one Distribution Channels vertical wall, outward and perpendicular from the Distribution Channel's direction of function, and extending to a distance equivalent to the width of the Distribution Channel.
20. A width measurement, from a vertical Cell Well wall, and on a line running horizontally and perpendicular to that of the vertical Cell Wall, and in a direction away from the center of the cell, to a point convergent with a vertical line intersecting the median of the land on the Cells Partition.
10a. A horizontal length measurement, from the point of intersection of an Angled Wall of a Cell's Partition, and the Cell Partition Land to which it corresponds, and extending horizontally and parallel to the Cells Partition, towards the closest Distribution Channel, to a point on a line, vertically intersecting the nearest vertical wall of that Distribution Channel.
10. A height measurement, from the highest point of elevation of a Cell Well wall, extending vertically, to a point intersecting with a line running horizontally and perpendicular to itself, and intersecting an elevation, equivalent to that of the land of the closest Cell Partition, to which the second line corresponds.
0. A width measurement, equivalent to half of the width of a Cell Partition Wall Land.

Design Aspects

1. **The shape of a "Cell"** [Overhead View] may take the form of a square, circle, equilateral triangle, octagon, or any other shape for its given purpose - *3 [below]. The shape of a Cell Element may vary due to the given compression loads to which its Partition Walls are subjected.
2. **The Partition Contour** [*See* – Design Features, "G"] may appear square, semi-circular, pointed, or in a configuration based on a variance of any combination of these three configurations. The varying profile of a Cell's Partition Contour will act to produce varying Partition Land width measurements.
3. **Distribution Channel depth and width may vary** depending on the application for which they were designed. Wider Distribution Channels allow for a more swift fluid distribution within a Cell Field. A shallower Distribution Channel (Partition Land to base of Distribution Channel) allows for more fluid storage within/upon a Cell Field surface.
4. **As the ratio of the area occupied by Cell Wells to Partition Walls is increased in a given Cell Field**, the load carrying capacity of that field (as when a vertical load is applied to the surface of the field) is diminished.
5. **A Base Drainage Hole may be employed in the center of each cell within a Cell Field…**
   1.) Should the Cell Mat/ Cell Field be designed/manufactured with a (secondary) fluid catching reservoir, located below an upper Cell Field layer. With this design, the Cell Mat could now provide additional fluid storage to its primary reservoir/Fluid Reservoir [See – Point 6]; and as well, might now contain a sponge-like material, sandwiched between those layers, for fluid absorption.
   2.) Should the fluid contents of given cells within that Cell Field, drain directly from their given Cell Fluid Reservoirs, through Base Drainage Holes, and out through the bottom of the Cell Mat. **Areas of land may be added to the underside of a Cell Mat, to elevate the Cell Mat/(Cell Mat's flat base) from the surface on which it lies.** The presence of these Base surface features,

act to increase the conveyance of fluid from within the mat's Cell Field, through the mat body, and into a drainage system or containment reservoir, that may lie below the mat's lower surface.

6. **The Cell Mat, shown in Figure 2 - #5, may contain a Fluid Reservoir** located in one half of its Cell Field. The Fluid Reservoir would act to collect fluid as it migrates to the lowest point of elevation within the Cell Mat/Cell Field. **A Fluid Reservoir Surface Cover** may be used to cover the cavity in the Cell Mat created by the Fluid Reservoir. The Fluid Reservoir Surface Cover may have a similar surface configuration to that of the Cell Mat, in that it will also convey fluid traffic into the Fluid Reservoir. The Fluid Reservoir Surface Cover may be designed so that it could be driven over by an automobile, without conveying the fluid stored within the Reservoir, to surfaces beyond that of the Cell Mat's Perimeter Border, or to the surface to which the Fluid Reservoir Surface Cover makes contact. The Fluid Reservoir Surface Cover may also be designed so it might experience the standing weight of a passenger vehicle, without buckling. The Fluid Reservoir Surface Cover may be removed to empty the reservoir of its contents, or to allow for a fluid-catching material to be placed within the Fluid Reservoirs interior cavity (to aid in fluid control or capture). **A Drain Hole (Figure 2, #6) may be added to the Cell Mat**, (1) to allow the Fluid Reservoir to be drained without removing the Fluid Reservoir Surface Cover; (2) should one employ the Cell Mat as a catch-basin, as when one services a vehicle for fluid changes. **A Drain Plug** (Stopper for the Drain Hole) may be built into the Fluid Reservoir Surface Cover, or may be provided separately.

***3 - The efficiency of a "Cell" as a fluid directing entity** has been found to depend **on the geometric shape of its design** (as seen in Plan View). Cell Elements assembled in a rank and file pattern to create a Cell Field are preferable, if each of the cells within that field is symmetrically shaped. Further, a square-shaped Cell appears to be the ideal shape to provide the cells within that field, with their best level of fluid containment/conveyance. Square-shaped cells act to provide maximum cell fluid containment, while minimizing the amount of mat material required to construct their Cell Partition Walls. Should the Partition Walls within a Cell Field require more strength (under compression) than a square shaped cell can provide, an alternate shape to that of a square-shaped cell can be employed. It should be noted, that as the shape of the cells within a Cell Field deviate from that of a square-shaped geometric configuration, their fluid carrying capacity is subsequently reduced.

Reader Notes: If viewing this document in Microsoft Word, use the enlargement option (on the Standard Toolbar) to produce greater visual clarity for the figures provided.