Summary of Nested Cell Work

- Proposed cell designs
- Finite element analysis showing load transfer
- 11 washers fabricated and diamond turned
- Diffusion bonding parameter space understood
- Assembly fixture designed

- 2 cell assembly to test bonding/brazing cycle
- 10 cell assembly to test assembly method, straightness, bookshelving

- Section 2. Cell Assembly for Metallography
  - Analyze diffusion bond at cavity O.D.

- Measure 10 cells for straightness, bookshelving
Proposed Interlocking Cell Design

A - 1436 mm²

A - 648 mm²

Klingmann, 10/10/97
Stress YY (Top)
Avg. Max  +1.6836E+00
Avg. Min  -3.0157E+01
Original Model
Load: load1000N

Stress Avg. Max
Avg. Min
Original Model
Load:

Step98_fix_ds_f
1. All dimensions are in millimeters.
5. Do not break edges.
6. 0.8/C

VIBRA ETCH SEA NO. XXX in area specified

DO NOT USE ABRASIVES.

NOTES
Diffusion Bonding Study

Table 2: Breaking strength (pounds) for the diffusion bonded samples. DT refers to the diamond-turned finish, and DFC refers to the diamond fly-cut finish.

<table>
<thead>
<tr>
<th>Bonding Temp. (C)</th>
<th>DT No Load</th>
<th>DFC No Load</th>
<th>DT 500 psi</th>
<th>DFC 500 psi</th>
<th>Silver Braze</th>
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<tr>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td>1650</td>
<td></td>
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<tr>
<td>500</td>
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</tbody>
</table>
Indicate to test for bookshelving.

Indicate to test for straightness.