

PLAINTIFF'S EXHIBIT

MAR-412

Bulletin 601  
11/1/1900

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| MAREMONT PRODUCT ENGINEERING DEPARTMENT<br>ENGINEERING BULLETIN     |                         |                            | Bulletin No. 601          |                              |                         |
|---------------------------------------------------------------------|-------------------------|----------------------------|---------------------------|------------------------------|-------------------------|
| Product: Friction Materials                                         |                         |                            | Supplement No.            |                              |                         |
| Subject: MANUFACTURING AND INSPECTION<br>DIMENSIONAL SPECIFICATIONS |                         |                            | Date July 13, 1965        |                              |                         |
| Reference:                                                          |                         |                            | Page 1 of 3               |                              |                         |
|                                                                     |                         |                            | Superseding No.           |                              |                         |
|                                                                     | <u>Rigid<br/>Lining</u> | <u>Flexible<br/>Lining</u> | <u>Rigid<br/>Segments</u> | <u>Flexible<br/>Segments</u> | <u>Rigid<br/>Blocks</u> |
| 1. Thickness range of lining classification                         | .310 Max.               | .310 Max.                  | .310 to .600              | .310 to .600                 | .600 Min.               |
| 2. Length                                                           | ± 3/32                  | ± 3/32                     | ± 3/32                    | ± 3/32                       | ± 1/16                  |
| 3. Width Note #1                                                    | + .000<br>- 1/32        | + .020<br>- .030           | ± .015                    | ± .015                       | ± 1/32                  |
| 4. Thickness (After Grind)                                          | ± .005                  | ± .006                     | + .005<br>- .015          | + .005<br>- .015             | -.015 to<br>-.030       |
| 5. Radius-shoe                                                      | + .000<br>- 1/8         | -----                      | ± 1/8                     | -----                        | + .000<br>- 1/32        |
| 6. Countersink depth Note #2                                        | .065 to .080            | .045 to .055               | .090 to .105              | .090 to .105                 | 1/8 ± .010              |
| 7. Twist throughout length                                          | .030 Max.               | .045 Max.                  | -----                     | -----                        | -----                   |
| 8. Squareness of ends to sides                                      | ± 1/32                  | ± 1/32                     | ± 1/32                    | ± 1/32                       | ± 1/32                  |
| 9. Parallel of sides Note #3                                        | ± 1/32                  | ± 1/32                     | ± .003                    | ± 1/32                       | ± .001                  |
| 10. Drill and countersink hole diameter Note #4                     | + .005<br>- .015        | + .005<br>- .015           | + .005<br>- .015          | + .005<br>- .015             | + .005<br>- .015        |
| 11. Groove width                                                    | 13/32 to 1/2            |                            |                           |                              |                         |
| 12. Material between inside arc and bottom of groove                | .125<br>+ .010<br>-     |                            |                           |                              |                         |

  

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| <b>MAREMONT PRODUCT ENGINEERING DEPARTMENT<br/>ENGINEERING BULLETIN</b> |                                                            | Bulletin No. 601   |
| Product:                                                                | Friction Materials                                         | Supplement No.     |
| Subject:                                                                | MANUFACTURING AND INSPECTION<br>DIMENSIONAL SPECIFICATIONS | Date July 13, 1965 |
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|                                                                         |                                                            | Superseding No.    |

|                                                                    | <u>Rigid<br/>Lining</u>                                       | <u>Flexible<br/>Lining</u>                                    | <u>Rigid<br/>Segments</u> | <u>Flexible<br/>Segments</u> | <u>Rigid<br/>Blocks</u> |
|--------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|---------------------------|------------------------------|-------------------------|
| 13. Rockwell hardness Min. 80<br>low friction-drill<br>Note #5     |                                                               | -----                                                         | -----                     | -----                        | -----                   |
| 14. Rockwell hardness-medium<br>and high friction<br>drill Note #5 | Min. 60                                                       | -----                                                         | -----                     | -----                        | -----                   |
| 15. Tensile-low<br>friction drill<br>Note #6                       | Min. 250<br>pounds                                            | -----                                                         | -----                     | -----                        | -----                   |
| 16. Tensile-high<br>and medium<br>friction drill<br>Note #6        | Min. 200<br>pounds                                            | -----                                                         | -----                     | -----                        | -----                   |
| 17. Bevel                                                          | 3/8 +.000<br>-1/16<br>1/8"<br>thickness<br>remaining<br>stock | 3/8 +.000<br>-1/16<br>1/8"<br>thickness<br>remaining<br>stock | 35°-1/2<br>thickness      | 35°-1/2<br>thickness         | 35°-1/2<br>thickness    |

## NOTES:

1. Medium friction rigid lining is 1/16" narrower than nominal with same tolerance.
2. Material left between inside arc and bottom of countersunk hole.
3. Tolerance for rigid block is  $\pm .001$  per inch of width rigid segment .003 per inch of width.
4. 3/8" (.375) countersink  $-.015$  to  $.005$ .
5. Material with very low Rockwell values should be recured or close structure evaluation be made.

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6. Material with tensile 50 lbs. less than requirement for drilled stock is to be used for bonding segments.

7. Countersink tip angle is 155° to 165°.

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