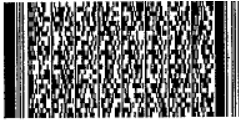




# **Mill Bundle - 2D Barcode Standard**

# Mill - 2D Barcode Standard

**Sample 2D Barcode** — contains all information about the bundle, including quantity, size, grade, length, heat number, etc. Does not need to link back to a network or database to provide data to rebar client.

|   |  |   |                |                 |               |                |   |       |    |       |
|---|--|---|----------------|-----------------|---------------|----------------|---|-------|----|-------|
| <b>Bundle #:</b><br>5095192208<br><br><b>Area/Bin:</b><br><br><b>Initials</b><br><input type="text"/><br><br><b>New Piece Count</b><br><input type="text"/>   | <b>Vendor Name:</b> ABC Rolling Mill<br><b>Division:</b> Pittsburgh, PA<br><b>Country:</b> USA<br><br><b>Heat #:</b> P50943858<br><b>Crew:</b> 3.7.2<br><b>Shift:</b> 2<br><br><b>Stock Qty:</b> 144<br><b>Stock Wgt:</b> 9,012 Lbs<br><br><b>Material Type:</b> Rebar | <b>Produced Date:</b> 05-01-2006<br><br><b>Receipt Date:</b><br><br><b>Receipt #:</b><br><br><b>Current Qty:</b> <input type="text"/> |                |                 |               |                |   |       |    |       |
| <table border="1" style="width: 100%; text-align: center;"> <tr> <td><b>Size:</b></td> <td><b>Coating:</b></td> <td><b>Grade:</b></td> <td><b>Length:</b></td> </tr> <tr> <td>5</td> <td>Black</td> <td>60</td> <td>60-00</td> </tr> </table> |  |   | <b>Size:</b>   | <b>Coating:</b> | <b>Grade:</b> | <b>Length:</b> | 5 | Black | 60 | 60-00 |
| <b>Size:</b>  | <b>Coating:</b>  | <b>Grade:</b>   | <b>Length:</b> |                 |               |                |   |       |    |       |
| 5   | Black  | 60  | 60-00          |                 |               |                |   |       |    |       |
| <b>Area/Bin:</b><br><br><b>Bundle #:</b> 5095192208   |  |   |                |                 |               |                |   |       |    |       |

v6.3.009

## Mill - 2D Barcode Standard

| Sample Data   | Code         | Description  | Required |
|---|--------------|--|----------|
| BCFM2D  |              | Barcode Header   | X        |
| 5095192208  | <b>n</b>     | Mill Bundle Number or Coil Number                        | X        |
| ABC Rolling Mill  | <b>m</b>     | Mill   | X        |
| Pittsburgh, PA  | <b>v</b>     | Division   |          |
| USA   | <b>c</b>     | Country  | X        |
| III   | <b>u</b>     | Units of Measure (Size, Length, Weight)Metric = MMM      | X        |
| D   | <b>r</b>     | <u>D</u> eformed or <u>P</u> lain                        | X        |
| S   | <b>t</b>     | <u>S</u> traight, <u>C</u> oil, or <u>R</u> od           | X        |
| 5   | <b>d</b>     | Size   | X        |
| 60-00   | <b>l</b>     | Length (Required for straight stock only) (fff-ii or mm) |          |
| 60  | <b>g</b>     | Grade  | X        |
| ASTM A 615  | <b>s</b>     | Specification  | X        |
| P50943858   | <b>h</b>     | Heat Number  | X        |
| 2007-05-18  | <b>y</b>     | Rolling date (yyyy-mm-dd)                                |          |
| 3.7.2   | <b>e</b>     | Crew   |          |
| 2   | <b>a</b>     | Shift  |          |
| 144   | <b>q</b>     | Bundle Quantity (Required for straight stock only)       |          |
| 9012  | <b>w</b>     | Bundle or Coil Weight (Lbs or Kgs)                       | X        |
| E   | <b>x</b>     | Coating ( <u>E</u> poxy, <u>G</u> alvanized, etc.)       |          |
| Pittsburgh Coating  | <b>f</b>     | Coating Facility   |          |
| 070345890   | <b>b</b>     | Coating Batch / Powder Number                            |          |
| 2007-03-01  | <b>z</b>     | Coating Date (yyyy-mm-dd)                                |          |
|   | <b>k</b>     | Chemistry  |          |
| C=0.39,Mn=0.96,P=0.006,S=0.029,Si=0.19,Cu=0.28,Cr=0.11,Ni=0.14,Mo=0.039,Cb=0.000,V=0.021,Sn=0.013,B=,TL=,CEq=0.57,... |              |  |          |
|   | <b>1...9</b> | User Fields  |          |
|   | <b>CRLF</b>  | Carriage Return Line Feed                                | X        |

# Mill - 2D Barcode Standard

## Notes:

- The mill barcode standard utilizes either the **PDF417** or **Data Matrix** barcode symbology.



PDF417

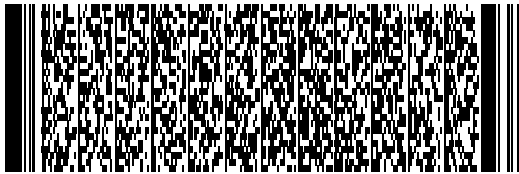


Data Matrix

- All data is represented using standard ASCII characters.
- Each barcode data field starts with a lower case letter for field identification (i.e. **a...z**) and ends with a **@** for field termination.
- The **@** character should not be used with any data fields.
- All mill barcodes begin with a recognition code **BCFM2D** which represents "Barcode Format Mill 2 Dimensional."
- All data fields are variable in length, and the order of the data fields can vary as well.
- All required data fields are marked with an **X** respectively.
- The bar size, length, and weight fields display in the barcode based on the unit of measure field **u**.  
**I** = Imperial, **M** = Metric, and **S** = Soft Metric
- The mill division is not a required field However, if the heat number can be duplicated across multiple divisions by the same company then the division field is required to make the heat number unique by division.
- The chemistry data **k** is stored with each element separated by a comma and an **=** separating the element and value. An example of the format is as follows: **element = decimal value, element = decimal value,...** The order of the elements can vary and the decimal precision is free-form.
- Nine (i.e. **1...9**) discretionary user fields are available.

# Mill - 2D Barcode Standard

## Sample Barcode



PDF417



Data Matrix

**BCFM2D@n5095192208@mABC Rolling Mill@vPittsburgh,PA@cUSA@uIII@rD@tS**  
**@d5@I60-00@g60@sASTM A 615@hP50943858@y2007-03-**  
**01@e3.7.2@a2@q144@w9012**  
**@xE@fPittsburgh Coating@b070345890@z2007-05-18**  
**@kC=0.39,Mn=0.96,P=0.006,S=0.029,Si=0.19,Cu,0.28,Cr=0.11,Ni=0.14,Mo=0.039,**  
**Cb=0.000,V=0.021,Sn=0.013,B=,TL=,CEq=0.57**  
**@CRLF**