

RAW MATERIALS / FERROUS

FNHA-2-A-350.00

**COLD DRAWN FLAT BAR AISI 1117****1. SCOPE**

This specification defines the requirements for Cold Drawn Steel Bar conforming to AISI chemistry specifications and ASTM A29 dimensional tolerances.

**2. APPLICATION**

This specification includes material requirements, ordering information and quality requirements to be used by Engineering, Purchasing and Manufacturing.

**3. DRAWING SPECIFICATIONS****3.1 C.D.Flat AISI 1117****4. REFERENCED DOCUMENTS**

ASTM A29 - Standard Specifications for Steel Bar, Carbon and Alloy, Hot Wrought and Cold Finished, General Requirements.

ASTM A108 - Standard Specifications for Steel Bar, Carbon, Cold Finished, Standard Quality.

86603813(FNHA-2-A-350.01) Material  
List 86603811

**5. ORDERING INFORMATION**

5.1 AISI 1117 Steel.

5.2 Cold Drawn Flat, Standard Quality.

5.3 Dimensions (thickness, width, bar length, and whether cut length or random length).

5.4 Condition: Cold drawn, unless otherwise specified.

**6. CHEMICAL COMPOSITION FOR AISI 1117 STEEL**

|               |                |
|---------------|----------------|
| Carbon, %     | 0.14 to 0.20   |
| Manganese, %  | 1.00 to 1.30   |
| Phosphorus, % | 0.040 maximum  |
| Sulfur, %     | 0.080 to 0.130 |

**7. DIMENSIONAL TOLERANCES**

7.1 Length tolerance for cut lengths + 2" / - 0, unless otherwise specified by part number drawing.

|           |         |    |         |       |                                                                                                                                                                                   |                     |                                  |    |
|-----------|---------|----|---------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------------|----|
|           |         |    |         |       | NAME                                                                                                                                                                              | STD AISI 1117 CD FL |                                  |    |
|           |         |    |         |       |  <b>NEW HOLLAND</b>                                                                            |                     | <b>ENGINEERING SPECIFICATION</b> |    |
|           |         |    |         |       |                                                                                                                                                                                   |                     |                                  |    |
|           |         |    |         |       |                                                                                                                                                                                   |                     |                                  |    |
|           |         |    |         |       |                                                                                                                                                                                   |                     |                                  |    |
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| FRAME NO. | REV     | BY | ECN NO. | DATE  |                                                                                                                                                                                   |                     | 1                                | 2  |
| APP.      | DRAWN   |    | TH      | 10-99 |                                                                                                                                                                                   |                     | PART NUMBER                      |    |
| GES 11-99 | CHECKED |    |         |       |                                                                                                                                                                                   |                     |                                  |    |



**86603811**

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**8. FREE-MACHINING PROPERTIES**

8.1 The use of 10L18, low carbon leaded steel, is being discontinued by New Holland. If free-machining properties are desired, and are not detrimental to the function of the product, AISI 1117 steel should be specified by the engineer, either as the preferred material or as the alternate material to AISI 1018 steel. If 1117 is listed as an alternate material, Manufacturing has the option of specifying

1117 if the reduction in machining cost will offset the increased material cost.

8.2 AISI 1117 should be used **with caution** under the following conditions, because it is more brittle than AISI 1018:

8.2.1 Impact or shock loading conditions.

8.2.2 Welding the circumference of small diameter shafts (less than 0.75" diameter).

8.2.3 Carburizing or carbonitriding thin cross-sections (less than 0.25").

|                                                                                                    |                                                         |  |  |             |            |         |
|----------------------------------------------------------------------------------------------------|---------------------------------------------------------|--|--|-------------|------------|---------|
| <br>NEW HOLLAND | NAME                                                    |  |  | PART NUMBER |            |         |
|                                                                                                    | STD AISI 1117 CD FL<br><b>ENGINEERING SPECIFICATION</b> |  |  | REV.<br>B   | FRAME<br>2 | OF<br>2 |