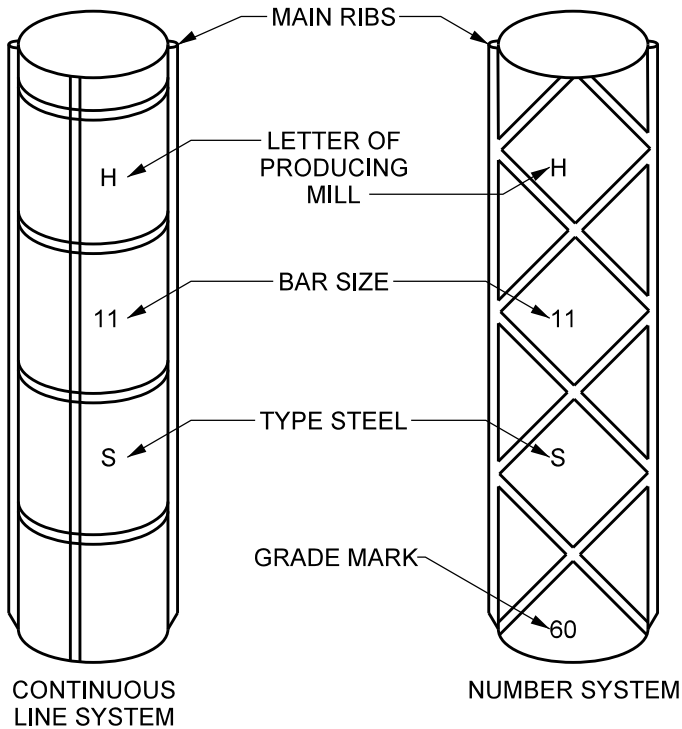


THE ASTM SPECIFICATIONS FOR BILLET-STEEL, RAIL-STEEL, AXLE-STEEL, AND LOW-ALLOY REINFORCING BARS (A 615, A 616, A 617, A 706 RESPECTIVELY) REQUIRE IDENTIFICATION MARKS TO BE ROLLED INTO THE SURFACE OF ONE SIDE OF THE BAR TO DENOTE THE PRODUCER'S MILL DESIGNATION, BAR SIZE, TYPE OF STEEL AND MINIMUM YIELD DESIGNATION.



GRADE MARKS  
INCH - POUND BARS

GRADE 60 BARS SHOW THESE MARKS IN THE FOLLOWING ORDER:

- 1ST-PRODUCING MILL (USUALLY A LETTER)
  - 2ND-BAR SIZE NUMBER (#3 THROUGH #18)
  - 3RD-TYPE OF STEEL
  - 4TH-MINIMUM YIELD DESIGNATION
- MINIMUM YIELD DESIGNATION IS USED FOR GRADE 60 BARS ONLY AND MAY BE EITHER ONE SINGLE LONGITUDINAL LINE (GRADE LINE) OR THE NUMBER 60 (GRADE MARK)

TYPE OF STEEL

- S- BILLET MEETING SUPPLEMENTARY REQUIREMENT (S1) OF A 615
- N- FOR BILLET (A 615)
- R- FOR RAIL (A 616) MEETING BEND TEST REQUIREMENTS OF ASTM A 617 GRADE 60 (PER ACI 318-83)
- I- FOR RAIL (A 616)
- A- FOR AXLE (A 617)
- W- FOR LOW - ALLOY (A 706)

MNDOT SPEC. REF. 3301

- BILLET STEEL BARS AASHTO M 31
- RAIL STEEL BARS AASHTO M 42
- AXLE STEEL BARS AASHTO M 53

GRADE 60  
MINNEAPOLIS CURB BOX REBAR

CURRENT ASTM SPECIFICATIONS COVER BAR SIZES #14 AND #18 IN A615 AND IN A706 ONLY  
\*DIMENSIONS ARE NOMINAL

| ASTM STANDARD REINFORCING BARS |                |                   |                |
|--------------------------------|----------------|-------------------|----------------|
| BAR SIZE                       | AREA (SQ. IN.) | WEIGHT (LBS./FT.) | DIAMETER (IN.) |
| # 3                            | .11            | .376              | .375           |
| # 4                            | .20            | .668              | .500           |
| # 5                            | .31            | 1.043             | .625           |
| # 6                            | .44            | 1.502             | .750           |
| # 7                            | .60            | 2.044             | .875           |
| # 8                            | .79            | 2.670             | 1.000          |
| # 9                            | 1.00           | 3.400             | 1.128          |
| #10                            | 1.27           | 4.303             | 1.270          |
| #11                            | 1.56           | 5.313             | 1.410          |
| #14                            | 2.25           | 7.650             | 1.693          |
| #18                            | 4.00           | 13.600            | 2.257          |

MINNEAPOLIS DESIGN REFERENCE  
MNDOT SPEC. REF. 3301  
NOT TO SCALE



DRW: DCD      DATE: 4/03  
APP: HRS      DATE: 1/07

REBAR

STANDARD  
PLATE  
NO.  
SEWR-6017