axis of the test specimens shall be parallel to the grain direction. All specimens from bar and rod will be taken from mid-radius locatins when size permits. Extruded shapes may be tested in full section size, at the option of the vendor.

(3) Plate and Sheet Material: The longitudinal axis of the test specimen shall be transverse to the direction of rolling when width permits. Specimen Type R1 and R2 must be used when thickness permits.

(4) Rolled Rings: Tensile testing shall be performed on the material from whcih the rolled rings are manufactured in accordance with items 1, 2, or 3 above, as applicable. Tensile testing of specimens from rolled rings is not required by the producer except as noted below. Subcontractor or Fort Worth subsequent tensile testing of rolled ring(s) shall take precedence over producer testing of the material from which the rolled ring(s) to meet the requirements of this specification shall be cause for rejection of the entire lot which the roll ring(s) tested represents. When the engineering drawing requires removal of tensile specimens from rolled rings, the producer shall test such specimens per drawing requirements for quantity, direction and frequency.

NOTE: Producer testing may be waived only with the concurrence of Fort Worth Division Engineering and Quality Control Department.

(C) 4.2.5.2 Heat Treatment: Test specimens shall be heat treated as follows to obtain the property requirements of Paragraph 3.10:

(1) Austenitize at 1675°F to 1725°F for one (1) hour.
(2) Quench in circulating molten salt at 400°F maximum for 15 minutes.
(3) Air cool to room temperature.
(4) Temper at 400°F ± 10°F for 1 hour.
(5) Air cool to room temperature.
(6) Double temper at 1000°F to 1060°F for the 220-240 KSI strength level and at 550°F to 700°F for the 260-280 KSI strength level. Each temper shall consist of 2 hours at temperature. (Ref. Paragraph 3.10)
(7) Air cool to room temperature.

4.2.5.3 Test Methods: Tensile tests shall be conducted in accordance with the tensile test requirements of Method 211.1, Federal Test Method Standard No. 151. The specimens required in Paragraph 4.2.5.1 shall meet the requirements specified in Paragraph 3.10.

4.2.6 Magnetic Inspection

4.2.6.1 Sampling: A slug of sufficient weight shall be cut from intermediate ground billet stock representing the top and bottom of the first and last consumable electrode ingot produced to the requirements of this specification. In cases where an order represents less than a full ingot, recorded data taken from the original ingot approvel test may apply.

4.2.6.2 Test Specimen and Procedures: The test material slug shall be ground all over and forged to a 2-1/4 inch thick (minimum) square or octagon. A three-step test bar conforming to the requirements of Figure 1 shall be machined from the forged material. The magnetic inspection test of the bar shall be conducted in accordance with the requirements of MIL-I-6868. The magnetizing current shall be a minimum of 1000 ampheres per inch of diameter. The smallest step shall be tested first and each larger step