

ASTM A709, Grade 36 and shall be silicon-killed fine-grain practice.

2. The Contractor may propose to substitute steel castings for the tower sheaves and operating drums. If proposed, the proposal shall include all details necessary for obtaining a suitable casting including but not limited to tapered material thickness transitions to reduce cooling stresses and generous fillets returns and provisions assuring a full sized sheave or drum after cooling shrinkage and machining has occurred. No part of the finished casting will be allowed to be of thinner material than that indicated in the welded alternate shown on the drawings if ASTM A27 Grade 70-36 steel is proposed. The proposal shall also include the following Supplementary Requirements within the ASTM A27 Specifications:
 - a. S1 Magnetic Particle Examination: The entire casting both before and after machining. Objectional defects will be cause for rejection or repair as approved by the Engineer.
 - b. S7 Prior Approval of Major Weld Repairs: Major weld repairs shall have the prior approval of the Engineer. Major repairs are hereby defined as any repair where the penetration of the repair exceeds 10 percent of the thickness of the part being repaired or exceeds 10 percent of the surface area being repaired.
 - c. The requirements of Article 2.1.B are applicable.

H. Wire Rope and Sockets

1. Wire rope and sockets shall conform to the requirements of Section 6.6 of the AREA Manual, Chapter 15 and the following. Every possible effort shall be made to fabricate wire ropes of uniform physical properties and all similar ropes shall be cut from a minimum number of reels.
 - a. Counterweight (suspending ropes) and Auxiliary Counterweight Ropes shall be preformed. Rope

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test pieces for testing of the ropes as prescribed in AREA Article 6.6.8 shall be of sufficient length to measure at least 5 feet between sockets and shall consist of one test piece of rope from each end of each reel, or more from each reel if necessary to make up at least 6 test pieces. Counterweight and auxiliary counterweight ropes shall be pre-stretched as prescribed in AREA Article 15.6.6.10. The maximum tensile strengths specified in AREA Article 6.6.7 may be exceeded by not more than 8 percent.

- b. Operating Ropes shall be preformed. For the testing of rope and rope sockets to destruction, the above requirements for counterweight ropes shall govern except that only two test pieces at least 3 feet long between sockets will need to be tested. Operating ropes shall be prestretched.
- c. Custom Rope Sockets shall be of annealed forgings conforming to the requirements of ASTM A 668 and shall be of the Class shown on the drawings. Standard Manufactured rope sockets shall be either forged steel or cast steel as normally provided by the socket manufacturer.

I. Speed Reducers

- 1. Speed reducers shall conform the requirements of AREA Section 15.6.5 12 and shall be furnished by manufacturers who have provided similar equipment for at least ten (10) years. Anti-friction bearings with a B-10 life of 40,000 hours shall be used throughout the reducer. Grease lubrication of the bearings is not required.
- 2. The reducers shall be rated for at least the service factors shown on the Drawings and shall also conform to the AGMA Product Standard 420.04, Practice for Enclosed Speed Reducers or Increaseers.
- 3. The gear housing shall be of neat form and suited for the application. Gear housings shall be oil tight and shall be attached to machinery frames with removable bolts. Suitable inspection covers