

Measurements: Production Area Supervisor

Micron Technology, Inc.

Job Description: Supervise, organize and monitor production in the work area while maintaining quality and efficiency. Motivate and evaluate personnel and maintain accurate documentation. Facilitate problem solving and quality improvement activities.

Problem:

Our company tests computer chips. Each chip must go through both a HOT test and a COLD test. Your goal for the 30-day month is 25,070,216 chips tested through the HOT and COLD tests.

It takes 472 seconds to test 32 chips through the HOT step and 208 seconds to test 32 chips through the COLD step. Expect to have to retest 5% due to failure to complete test. The plant is open 24 hours a day, 7 days a week.

How many HOT and COLD testers do you need to move an even amount each day?

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Solution:

25,070,216 chips + 5% failures = 26,323,726 chips (originally tested)

26,323,726 chips ÷ 30 days = 877,458 chips per day

60 seconds/minute x 60 minutes/hour = 3600 seconds/hr

HOT TEST:

3600 seconds ÷ 472-second test = 7.62 x 32 chips per tester = 244 chips per hour

244 chips/hour x 24 hrs/day = 5,856 chips per day per tester

877,458 chips/day ÷ 5,856 chips per tester = 150 HOT testers per day

COLD TEST:

3600 seconds ÷ 208-second test = 17.3 x 32 chips per tester = 554 chips per hour

554 chips/hour x 24 hrs/day = 13,296 chips per day per tester

877,458 chips/day ÷ 13,296 chips per tester = 66 COLD testers per day