INDEX TO ILLUSTRATIONS

Figs. 1 to 22—Mechanical Properties of Various Phosphor Bronze Alloy Strips
Figs. 23 to 44—S-N Diagram of Various Phosphor Bronze Alloy Strips
Figs. 45 to 54—Summary of S-N Diagrams, Minimum Curves
Figs. 55 to 70—Effect of Variation in Tin Content on Various Mechanical Properties
Figs. 71 to 82—Effect of Variation in Tin Content on Mechanical Properties of Various Tempers of Phosphor Bronze Strips
Figs. 83 to 85—Effect of Variation in Phosphorus Content on Mechanical Properties of 3, 4, and 5 per cent Tin Phosphor Bronze Strips
Figs. 86 to 95—Effect of Variation in Grain Size on Mechanical Properties of Phosphor Bronze Strips
Fig. 1.—Mechanical Properties of Electrolytic Tough Pitch Copper Strip.
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 2.—Mechanical Properties of Electrolytic Tough Pitch Copper Strip.
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 3.—Mechanical Properties of 0.5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 4.—Mechanical Properties of 0.5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
FIG. 5.—Mechanical Properties of 1 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.06 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Reduction by Cold-Rolling, Per Cent

Fig. 6.—Mechanical Properties of 1 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 7.—Mechanical Properties of 2 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Reduction by Cold-Rolling, Per Cent

Fig. 8.—Mechanical Properties of 2 per cent Tin Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 9.—Mechanical Properties of 3 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 10.—Mechanical Properties of 3 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Reduction by Cold-Rolling, Per Cent

Fig. 11.—Mechanical Properties of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 12.—Mechanical Properties of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 13.—Mechanical Properties of 5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
GOHN, GUERARD, AND FREYNIK ON PHOSPHOR BRONZE

FIG. 14.—Mechanical Properties of 5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 15.—Mechanical Properties of 8 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 16.—Mechanical Properties of 8 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 17.—Mechanical Properties of 10 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 18.—Mechanical Properties of 10 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 19.—Mechanical Properties of 3 per cent Tin Phosphor Bronze Strip.

Nominal phosphorus content—0.40 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 20.—Mechanical Properties of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.40 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 21.—Mechanical Properties of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.40 per cent
Nominal ready-to-finish grain size—0.075 mm
Nominal thickness—0.040 in.
FIG. 22.—Mechanical Properties of 5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.40 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 23.—Fatigue Characteristics of Electrolytic Tough Pitch Copper Strip.
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 24.—Fatigue Characteristics of Electrolytic Tough Pitch Copper Strip.
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 25.—Fatigue Characteristics of 0.5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 26.—Fatigue Characteristics of 0.5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 27.—Fatigue Characteristics of 1 per cent Tin Phosphor Bronze Strip.
Nominal Phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 28.—Fatigue Characteristics of 1 per cent Tin Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 29.—Fatigue Characteristics of 2 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 30.—Fatigue Characteristics of 2 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
FIG. 31.—Fatigue Characteristics of 3 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 32.—Fatigue Characteristics of 3 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 33.—Fatigue Characteristics of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 34.—Fatigue Characteristics of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
FIG. 35.—Fatigue Characteristics of 5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 36.—Fatigue Characteristics of 5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
Fig. 37.—Fatigue Characteristics of 8 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 38.—Fatigue Characteristics of 8 per cent Tin Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.

Alloy and Temper 8–0
Alloy and Temper 8–2
Alloy and Temper 8–4
Alloy and Temper 8–6
Alloy and Temper 8–8
Alloy and Temper 8–10

Maximum Bending Stress, psi (±)
Number of Cycles-to-Failure

Single Specimen
Average
No Failure
Average Curve
Minimum Curve
FIG. 39.—Fatigue Characteristic of 10 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 40.—Fatigue Characteristics of 10 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm
Nominal thickness—0.040 in.
FIG. 41.—Fatigue Characteristics of 3 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.40 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 42.—Fatigue Characteristics of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.40 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 43.—Fatigue Characteristics of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.40 per cent
Nominal ready-to-finish grain size—0.075 mm
Nominal thickness—0.040 in.
FIG. 44.—Fatigue Characteristics of 5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.40 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
FIG. 45.—Comparison of Fatigue Characteristics of Electrolytic Tough Pitch Copper Strip.

Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm.
(b) Nominal ready-to-finish grain size—0.015 mm.
Fig. 46.—Comparison of Fatigue Characteristics of 0.5 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm.
(b) Nominal ready-to-finish grain size—0.015 mm.
FIG. 47.—Comparison of Fatigue Characteristics of 1 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm.
(b) Nominal ready-to-finish grain size—0.015 mm.
FIG. 48.—Comparison of Fatigue Characteristics of 2 per cent Tin Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm.
(b) Nominal ready-to-finish grain size—0.015 mm.
Fig. 49.—Comparison of Fatigue Characteristics of 3 per cent Tin Phosphor Bronze Strip.
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm, Nominal phosphorus content—0.05 per cent.
(b) Nominal ready-to-finish grain size—0.015 mm, Nominal phosphorus content—0.05 per cent.
(c) Nominal ready-to-finish grain size—0.035 mm, Nominal phosphorus content—0.40 per cent.
Fig. 50.—Comparison of Fatigue Characteristics of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent.
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm.
(b) Nominal ready-to-finish grain size—0.015 mm.
Fig. 51.—Comparison of Fatigue Characteristics of 4 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.40 per cent.
Nominal thickness—0.040 in.
Nominal ready-to-finish grain size—0.035 mm.
Nominal ready-to-finish grain size—0.075 mm.
FIG. 52.—Comparison of Fatigue Characteristics of 5 per cent Tin Phosphor Bronze Strip.
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm, Nominal phosphorus content—0.05 per cent.
(b) Nominal ready-to-finish grain size—0.015 mm, Nominal phosphorus content—0.05 per cent.
(c) Nominal ready-to-finish grain size—0.035 mm, Nominal phosphorus content—0.40 per cent.
FIG. 53.—Comparison of Fatigue Characteristics of 8 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent.
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm.
(b) Nominal ready-to-finish grain size—0.015 mm.
Fig. 54.—Comparison of Fatigue Characteristics of 10 per cent Tin Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent.
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm.
(b) Nominal ready-to-finish grain size—0.015 mm.
Fig. 55.—Effect of Variation in Tin Content on the Tensile Strength of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent.
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Fig. 56.—Effect of Variation in Tin Content on the Tensile Strength of Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent.
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
FIG. 57.—Effect of Variation in Tin Content on the Proportional Limit of Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent.
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Fig. 58.—Effect of Variation in Tin Content on the Proportional Limit of Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent.
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
Fig. 59.—Effect of Variation in Tin Content on the Yield Strength at 0.01 per cent Offset of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent.
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Fig. 60.—Effect of Variation in Tin Content on the Yield Strength at 0.01 per cent Offset of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
Fig. 61.—Effect of Variation in Tin Content on the Yield Strength at 0.2 per cent Offset of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness 0.040 in.
Fig. 62.—Effect of Variation in Tin Content on the Yield Strength at 0.2 per cent Offset of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
Fig. 63.—Effect of Variation in Tin Content on the Ductility of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Fig. 64.—Effect of Variation in Tin Content on the Ductility of Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
Fig. 65.—Effect of Variation in Tin Content on the Rockwell "B" Hardness of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm
Nominal thickness—0.040 in.
Fig. 66.—Effect of Variation in Tin Content on the Rockwell "B" Hardness of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
Fig. 67.—Effect of Variation in Tin Content on the Rockwell "30T" Hardness of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Fig. 68.—Effect of Variation in Tin Content on the Rockwell "30T" Hardness of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
Fig. 69.—Effect of Variation in Tin Content on the Modulus of Elasticity of Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm.
(b) Nominal ready-to-finish grain size—0.015 mm.
Fig. 70.—Effect of Variation in Tin Content on the Bending Fatigue Properties of Phosphor Bronze Strip at $10^8$ Cycles of Reversed Stress.

Nominal phosphorus content—0.05 per cent
Nominal thickness—0.040 in.
(a) Nominal ready-to-finish grain size—0.035 mm.
(b) Nominal ready-to-finish grain size—0.015 mm.
FIG. 71.—Mechanical Properties of Annealed Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Tin, Per Cent

**Fig. 72.**—Mechanical Properties of Annealed Phosphor Bronze Strip.

- Nominal phosphorus content—0.05 per cent
- Nominal ready-to-finish grain size—0.015 mm.
- Nominal thickness—0.040 in.
FIG. 73.—Mechanical Properties of Half-Hard Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
FIG. 74.—Mechanical Properties of Half-Hard Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
FIG. 75.—Mechanical Properties of Hard Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
FIG. 76.—Mechanical Properties of Hard Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
Fig. 77.—Mechanical Properties of Extra-Hard Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
FIG. 78.—Mechanical Properties of Extra-Hard Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
Fig. 79.—Mechanical Properties of Spring Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
FIG. 80.—Mechanical Properties of Spring Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
Fig. 81.—Mechanical Properties of Extra-Spring Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Fig. 82.—Mechanical Properties of Extra-Spring Phosphor Bronze Strip.
Nominal phosphorus content—0.05 per cent
Nominal ready-to-finish grain size—0.015 mm.
Nominal thickness—0.040 in.
FIG. 83.—Effect of Phosphorus Content on the Mechanical Properties of 3 per cent Tin Phosphor Bronze Strip.

Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Nominal phosphorus content
0.05 per cent,
0.40 per cent,
Fig. 84.—Effect of Phosphorus Content on the Mechanical Properties of 4 per cent Tin Phosphor Bronze Strip.

Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Nominal phosphorus content (0.05 per cent, O——O) (0.40 per cent, —— ——)
Reduction by Cold-Rolling, Per Cent

Fig. 85.—Effect of Phosphorus Content on the Mechanical Properties of 5 per cent Tin Phosphor Bronze Strip.

Nominal ready-to-finish grain size—0.035 mm.
Nominal thickness—0.040 in.
Nominal phosphorus content
(0.05 per cent, ○—○
(0.40 per cent, •—•)
FIG. 86.—Effect of Grain Size on the Mechanical Properties of Electrolytic Tough Pitch Copper Strip.

Nominal ready-to-finish grain size—0.030 mm.
Nominal thickness—0.040 in.

O 0.015 mm, • • • • •
FIG. 87.—Effect of Grain Size on the Mechanical Properties of 0.5 per cent Tin Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent
Nominal thickness—0.040 in.
Nominal ready-to-finish grain size—0.035 mm, ○
Nominal ready-to-finish grain size—0.015 mm, •
FIG. 88.—Effect of Grain Size on the Mechanical Properties of 1 per cent Tin Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent.
Nominal thickness—0.040 in.
Nominal ready-to-finish grain size

0.035 mm, ——-

0.015 mm, ———
Fig. 89.—Effect of Grain Size on the Mechanical Properties of 2 per cent Tin Phosphor Bronze Strip.

Nominal phosphorous content—0.05 per cent.
Nominal thickness—0.040 in.
Nominal ready-to-finish grain size 0.035 mm,
Nominal ready-to-finish grain size 0.015 mm,
Fig. 90.—Effect of Grain Size on the Mechanical Properties of 3 per cent Tin Phosphor Bronze Strip.

Nominal phosphorous content—0.05 per cent.
Nominal thickness—0.040 in.
Nominal ready-to-finish grain size 0.035 mm; 0.015 mm.
Fig. 91.—Effect of Grain Size on the Mechanical Properties of 4 per cent Tin Phosphor Bronze Strip.

Nominal phosphorous content—0.05 per cent.
Nominal thickness—0.040 in.
Nominal ready-to-finish grain size (0.035 mm, ————), (0.015 mm, ————).
FIG. 92.—Effect of Grain Size on the Mechanical Properties of 5 per cent Tin Phosphor Bronze Strip.

Nominal phosphorous content—0.05 per cent.
Nominal thickness—0.040 in.
Nominal ready-to-finish grain size 0.035 mm, \(0.015 \text{ mm}, \)
Fig. 93.—Effect of Grain Size on the Mechanical Properties of 8 per cent Tin Phosphor Bronze Strip.

Nominal phosphorous content—0.05 per cent.
Nominal thickness—0.040 in.
Nominal ready-to-finish grain size
- 0.035 mm, O—O
- 0.015 mm, •—•
FIG. 94.—Effect of Grain Size on the Mechanical Properties of 10 per cent Tin Phosphor Bronze Strip.

Nominal phosphorus content—0.05 per cent.
Nominal thickness—0.040 in.
Nominal ready-to-finish grain size 10.035 mm, 10.010 mm,
Fig. 95.—Effect of Grain Size on the Mechanical Properties of 4 per cent Tin Phosphor Bronze Strip.

Nominal phosphorus content—0.40 per cent.
Nominal thickness, 0.040 in.
Nominal ready-to-finish grain size 0.035 mm, •—•
Nominal ready-to-finish grain size 0.075 mm, ○—○