



**H. KRAMER & CO.**

## BRASS & BRONZE INGOTS **NOMINAL COMPOSITIONS**

1345 WEST 21ST STREET CHICAGO, IL 60608 (800)621-2305 (312)226-6600

### **85-5-5-5 GROUP**

| Ingot No. | CDA No. | Copper | Tin | Lead | Zinc |
|-----------|---------|--------|-----|------|------|
| 115       | 836     | 85     | 5   | 5    | 5    |
| 120       | 838     | 83     | 4   | 6    | 7    |
| 123       | 844     | 81     | 3   | 7    | 9    |
| 125       | 845     | 78     | 3   | 7    | 12   |
| 130       | 848     | 76     | 2½  | 6½   | 15   |
| 131       | 833     | 93     | 1   | 2    | 4    |
| 132       | 83450   | 87     | 2   | 2    | 9    |



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### 88-10-0-2 GROUP

| Ingot No. | CDA No. | Copper | Tin | Lead | Zinc | Nickel |
|-----------|---------|--------|-----|------|------|--------|
| 194       | 913     | 81     | 19  | 0    | 0    |        |
| 196       |         | 85     | 15  | 0    | 0    |        |
| 197       | 910     | 85     | 14  | 0    | 1    |        |
| 200       |         | 87½    | 11½ | 1    | 0    |        |
| 200N      | 925     | 87     | 11  | 1    | 0    | 1      |
| 205       | 907     | 89     | 11  | 0    | 0    |        |
| 205N      | 916     | 88     | 10  | 0    | 0    | 2      |
| 206       | 927     | 88     | 10  | 2    | 0    |        |
| 206N      | 929     | 84     | 10  | 2½   | 0    | 3½     |
| 210       | 905     | 88     | 10  | 0    | 2    |        |
| 215       | 926     | 87     | 10  | 1    | 2    |        |
| 225       | 903     | 88     | 8   | 0    | 4    |        |
| 230       | 923     | 87     | 8   | 1    | 4    |        |
| 235       |         | 86     | 8   | 2    | 4    |        |
| 242       | 902     | 93     | 7   | 0    | 0    |        |
| 245       | 922     | 88     | 6   | 1½   | 4½   |        |
| 255       |         | 88     | 5   | 2½   | 4½   |        |
|           |         |        |     |      |      |        |



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### 80-10-10 GROUP

| Ingot No. | CDA No. | Copper | Tin | Lead | Zinc |
|-----------|---------|--------|-----|------|------|
| 305       | 937     | 80     | 10  | 10   | 0    |
| 310       | 934     | 84     | 8   | 8    | 0    |
| 315       | 932     | 83     | 7   | 7    | 3    |
| 319       | 938     | 78     | 7   | 15   | 0    |
| 321       | 945     | 73     | 7   | 20   | 0    |
| 322       | 943     | 70     | 5   | 25   | 0    |
| 326       | 935     | 85     | 5   | 9    | 1    |

### YELLOW BRASS GROUP

| Ingot No. | CDA No. | Copper | Tin           | Lead           | Zinc |
|-----------|---------|--------|---------------|----------------|------|
| 400       | 852     | 72     | 1             | 3              | 24   |
| 403       | 854     | 67     | 1             | 3              | 29   |
| 406       | 857     | 63     | $\frac{3}{4}$ | $1\frac{1}{4}$ | 35   |



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### NICKEL SILVERS GROUP

| Ingot No. | CDA No. | %             |
|-----------|---------|---------------|
| 410       | 973     | 12% Ni Silver |
| 411       | 974     | 15% Ni Silver |
| 412       | 976     | 20% Ni Silver |
| 413       |         | 25% Ni Silver |
| 413B      | 978     | 25% Ni Silver |
| 414       |         | 30% Ni Silver |

### ALUMINUM BRONZE GROUP

| Ingot No. | CDA No. |    |              |
|-----------|---------|----|--------------|
| 415       | 952     | M  | 88-3-9       |
| 415       | 953     | I  | 89-1-10      |
| 415       | 954     | R  | 86-4-10      |
| 415C      | 95410   | C  | 84-4-10-2    |
| 415D      | 955     | N  | 81-4-11-4    |
| 415D      | 958     | N1 | 81½-4-9-4-1½ |
| Superston | 957     |    | 75-3-8-2-12  |



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### MANGANESE BRONZE GROUP

| Ingot No. | CDA No. |     | Tensile Strength |
|-----------|---------|-----|------------------|
| 420       | 864     | S   | 60-65,000        |
| 421       | 865     | A   | 65-80,000        |
| 422       | 867     | AX  | 80-90,000        |
| 423       | 861     | F55 | 90-100,000       |
| 423       | 862     | SX  | 90-100,000       |
| 424       | 863     | XX  | 100,000+         |

### SILICON BRONZE GROUP

| Ingot No. | CDA No. |         |          |
|-----------|---------|---------|----------|
| 500       | 873     | 95-1-4  |          |
| 500       | 87610   | 92-4-4  |          |
| 500       | 87600   | 89-6-5  |          |
| 500T      | 875     | 82-4-14 | Tombasil |



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### STANDARD WHITE TOMBASIL GROUP

| Ingot No. | CDA No. |
|-----------|---------|
| -         | 997     |

### TABLE X

| Ingot No.                  | CDA No. |  |  |
|----------------------------|---------|--|--|
| data currently unavailable |         |  |  |