53-24

RELATIVE COSTS

INCLUDING DESCRIPTION OF GE "COSTS"

Value Analysis Unit
Materials Services Department
February, 1953

INDEX

- AVERAGE COST -
SOME COMMONLY USED MATERIALS ARRANGED PROGRESSIVELY

COST PER LB.

MATERIAL	$
Tantalum	42.00
Silver, 16 oz.	14.00
Molybdenum	12.00
Beryllium Copper	2.00
Trodoloy	1.86
Textolite Fiber	1.25
Tin	1.21
Magnesium Sheet	1.05
Textolite, Paper	.80
Phosphor Bronze, 8%	.78
Nickel, Sheet	.77
Stainless Steel, 347 Sht	.70
Drill Rod	.70
Monel	.60
Stainless Steel, 302 Sht	.57
Stainless Steel, 347 Rod	.50
Copper, Sheet	.50
Bronze, Commercial, 90%	.48
Yellow Brass Sheet	.46
Aluminum, 24 S Sheet	.42
Stainless Steel, 302 Bar	.40
Aluminum, 24 S Rod	.40
Aluminum, 2 S Rod	.36
Aluminum, 2 S Sheet	.33
Cast Steel	.30
Malleable Iron	.25
Spring Steel	.20
118 Plastic Mold Comp	.20
Zinc, Pig	.19
Lead, Pig	.19
Cast Iron	.18
Silicon Steel, Elec	.08
Carbon Steel, GR Sheet	.06
Carbon Steel, Bar Plate	.05
Carbon Steel, H.R. Sheet	.05

DOLLARS PER UNIT VOLUME

MATERIAL	PER CU. IN.
Tantalum	25.00
Silver, 16 oz.	5.35
Molybdenum	4.30
Beryllium Copper	.63
Trodoloy	.56
Tin	.32
Phosphor Bronze 8%	.25
Nickel Sheet	.25
Stainless Steel, 347 Sht	.20
Drill Rod	.20
Monel	.17
Stainless Steel, 302 Sht	.16
Copper Sheet	.16
Bronze, Commercial, 90%	.15
Stainless Steel, 347 Bars	.14
Yellow Brass, Sheet	.14
Stainless Steel, 302 Bar	.11
Cast Steel	.08
Lead Pig	.08
Malleable Iron	.07
Textolite, Fiber	.06
Spring Steel	.06
Magnesium Sheet	.06
Zinc, Pig	.05
Cast Iron	.05
Aluminum 24 S Sheet	.04
Textolite, Paper	.04
Aluminum, 24 S Bar	.04
Aluminum 2 S Bar	.03
Aluminum, 2 S Sheet	.03
Silicon Steel Elec	.02
Carbon Steel, C.R. & H.R. Rod	.015
Carbon Steel, H.R. Sheet	.015
Carbon Steel, H.R. Sheet	.015
118 Plastic Mold. Comp.	.01

Note: The average costs shown above are to be used as a rough guide only. For accurate costs consult your Material Buyer

Value Analysis Unit
Materials Services Department
February, 1953

LOW CARBON STEEL BAR
Base Price Including
Chemical Extras Only
Effective Date February, 1953

G.E. Spec.	Name	Type	Price/100 Lbs.
B4A2A	Hot Rolled--.20 Carbon	--1020	$4.20
B4C1	Hot Rolled--Medium Steel	--1045	4.35
B4A11B	Cold Drawn	--1010	5.175
B4A2C	Cold Rolled--.20 Carbon	--1020	5.225
B3C1D	Cold Drawn--Chem. Base	--1045	5.325
B4H1B	Cold Drawn--Sulfurized Carbon	--1117	5.875
B4B1	Cold Drawn--Screw Stock	--1111	5.675
B4B6	Cold Drawn	--1112	5.875
B4P24	Cold Drawn	--1137	5.825
B4H10	Cold Drawn	--1113	6.075
B4C10	Cold Drawn--.4--.8 Carbon	--1144	6.175

LOW CARBON STEEL--PLATE
Base Price Including
Chemical Extras Only
Effective Data February, 1953

G.E. Spec.	Name	Price/100 Lbs.
B4A26	Plate--Structural Quality--Under 1-1/2 Thick	$3.90
B4A8A	Plate--Welding Quality--Under 1½ Thick	4.00
B4A9A	Plate--Copper Bearing	4.15
B4A12A	Plate--Boiler--Flange Quality	4.20
B4P25	Plate--.35--.45 Carbon--Under 1½ Thick	4.50
B4A25	Plate--Silicon--Carbon	4.55
B4A21A	Plate--Chrome-Silicon-Flange Qual. Under 1½ Thick	4.85
B4P27A	Plate--Carbon-Silicon-Flange Qual. Under 1½ Thick	4.85

LOW CARBON SHEET & STRIP
Base Price Including
Chemical Extras Only
Effective Date February, 1953

G.E.Spec.	Type	Price/100 Lbs.
B8A5	Hot Rolled Strip	$3.725
B8A3	Hot Rolled Sheet	3.775
B8A14	Hot Rolled Sheet--Panel	3.775
B8A12	Hot Rolled Sheet--Copper Bearing	3.925
B8A16	Hot Rolled Sheet	3.775
B8A4	Cold Rolled Sheet	4.575
B8A1	Cold Rolled Strip	5.10
B8A8A	Galv. Sheet Steel (10 Gauge)	5.075
B8A17	Enameling Sheet Steel	4.925
B8A24	Alum De-Oxidized Strip-C.R.	6.10
B8A2	Ingot Iron Strip - C.R.	5.70

STAINLESS STEEL BAR & ROD

Base Price Including
Chemical Extras Only
Effective Data February, 1953

G.E.Spec.		Type	Price/100 Lbs.
B7B1	410	13% Chrome--No Nickel--Magnetic	$26.96
B7B5	416	Free Machining	27.48
B7B10	430	High Chrome-Decorative--Magnetic	27.48
B7B19	405	Chrome Iron--Heat Resist.--Magnetic	28.53
B7B20	403	Turbine Quality--Magnetic	30.10
B7A1	302	"18-8"--Non Magnetic	32.98
B7A31	304	"18-8" Low Carbon Non Magnetic	34.55
B7A13	303	"18-8" Free Machining Non Magnetic	35.60
B7B3	446	27% Chrome-Heat Resisting Magnetic	49.47
B7A26	321	"18-10" Titanium Stabilized Non Magnetic	38.74
B7A18	347	"18-10" Columbium Stabilized Non Magnetic	43.45
B7B7	309	"25-12" Heat Resisting Non Magnetic	46.85
B7A6	310	"25-20" Heat Resisting Non Magnetic	62.45
B7A15	317	"18-8" Ni-Cr-Mo Heat Resisting	63.08

STAINLESS STEEL SHEET
Base Price Including
Chemical Extras Only
Effective Date February, 1953

G.E.Spec.	Type	Name	Price/100 Lbs.
B7B2	410	13% Chrome--Magnetic	$38.22
B7B6	430	High Chrome--(Decorative)--Magnetic	40.83
B7A2	302	"18-8" Non-Magnetic	43.19
B7A25	321	"18-10" Titanium Stabilized Non-Magnetic	51.56
B7A19	347	"18-10" Columbium Stabilized Non-Magnetic	56.28
B7B16	446	27 Chrome-Heat Resisting Magnetic	56.01
B7A5	309	"25-12" Heat Resisting Non-Magnetic	58.63
B7B8	310	"25-20" Heat Resisting Non-Magnetic	66.90

STAINLESS STEEL STRIP
Base Price Including
Chemical Extras Only
Effective Data February, 1953

G.E.Spec.	Type		Price/100 Lbs. C.R. Strip	H.R. Strip
B7B2	410	13% Chrome--Magnetic	$31.93	$24.60
B7B6	430	High Chrome--(Decorative)--Magnetic	32.46	25.13
B7A2	302	"18-8" Non-Magnetic	38.48	29.58
B7A25	321	"18-10" Titanium Stabilized Non-Magnetic	50.52	38.74
B7A19	347	"18-10" Columbium Stabilized Non-Magnetic	54.71	43.19
B7B16	446	27 Chrome-Heat Resisting Magnetic	66.48	49.47
B7A5	309	"25-12" Heat Resisting Non-Magnetic	55.59	45.81
B7B8	310	"25-20" Heat Resisting Non-Magnetic	-	62.45

COPPER--BAR & ROD
Base Price As Of February, 1953
Does Not Include Extras

G.E.Spec.	Type	Price/100 Lbs.
B11B6	Hot Rolled Rods Tough Pitch	$41.37
B11B22A	Hot Rolled Rods Tough Pitch (Hot Forging)	41.37
B11B22C	Hot Rolled Rods Tough Pitch (Cold Forging)	41.37
B11B4	Drawn Rods Tough Pitch	42.62
B11B5	Drawn Rods Tough Pitch (Bus Bars)	42.62
B11B19	Drawn Rods Tough Pitch	42.62
B11B22B	Hot Rolled Rods Tough Pitch (Switch Blades)	44.37
B11B8	Commutator Copper (Scalped)	44.87
B30B11	Plain Extruded Copper Sections	45.12
B11B23B	Commutator Copper (High Silver Bearing)	47.37

COPPER--SHEET & STRIP
Base Price As Of February, 1953
Does Not Include Extras

G.E.Spec.	Type		Price/100 Lbs.
B11B3	Strip	Tough Pitch--Rolls	$43.55
B11B19	Sheet & Strip	Tough Pitch--Rolls	43.55
B11B14	Sheet & Plate--Hot Rolled--Tough Pitch		45.52
B11B17	Sheet & Plate--Cold Worked--Tough Pitch		45.52
B11B19	Sheet & Plate	Tough Pitch-Sheet	45.52
B11B38	Strip	Silver Bearing	46.05
B11B3	Spring & Brush Copper		46.55

BRASS & COPPER--SEAMLESS TUBING
Base Price As Of February, 1953
Does Not Include Extras

G.E.Spec.	Type	Price/100 Lbs.
B11B9	De-Oxidized Copper	$45.56
B11H30	Yellow Brass (High)	43.18
B30E9	Yellow Brass (High Flange Quality)	43.18
B11B16	De-Oxidized Copper	45.56
B11B35	De-Oxidized Copper	45.56
B30E2	Red Brass (Cold Drawn)	46.01
B30E11	Commercial Bronze	47.05
B30E1	Everdur	67.33
B11H37	Nickel Silver	70.31

BRASS & BRONZE ROD

Base Price As Of February, 1953
Does Not Include Extras

G.E.Spec.	Type	Price/100 Lbs.
B11H18	Yellow Brass (Free Cutting)	$33.85
B11H63	Yellow Brass (leaded--high)	33.85
B11H73	Yellow Brass (Semi-Free-Cutting)	33.85
B11H8	Forging Rod (Drawn)	33.85
B11H26	Muntz Metal	38.24
B11H20	Naval Brass	38.77
B11H35	Nickel Bronze	39.86
B11H6	Yellow Brass (High)	39.86
B11H22	Low Brass	42.03
B11H59	Red Brass	42.79
B11H28	Hardware Bronze (Leaded)	44.39
B11H34	Commercial Bronze	44.07
B11H10	Phos. Bronze (2% Tin)	48.59
B11H32	Rotor Bar Bronze (2% Tin)	48.59
B11H1	Everdur	48.77
B11H9	Phos. Bronze (Free Cutting--4% Tin)	60.62
B11H33	Cupro Nickel - 15%	61.79
B11H25	Nickel Silver - 18%	60.77
B11H7	Phos. Bronze--Grade B (Leaded)	64.85
B11H3	Phos. Bronze--Grade A	64.96
B11H12	Phos. Bronze--Grade C (8% Tin)	68.87
B11H39	Phos. Bronze--Grade D (10% Tin)	72.57
B11H56	Beryllium Copper (Berylco 25S)	153.70

BRASS & BRONZE SHEET
Base Price As Of February, 1953
Does Not Include Extras

G.E.Spec.	Type		Price/100 Lbs.
B11H72	Muntz Metal	½" Thick & over	$37.68
Naval Brass		½" Thick & over	39.71
B11H16	Yellow Brass	(65-35)	40.17
B11H41	Yellow Brass	(High)	40.17
B11H45	Yellow Brass	(2.5% Lead)	40.17
B11H47	Yellow Brass	(Clock)	40.17
B11H89	Extra Qual. Brass	(70-30)	40.17
B11H4	Low Brass		42.34
B11H42	Red Brass		43.10
B11H2	Commercial Bronze		44.38
B11H72	Muntz Metal	Less than ½" Thick	42.68
B11H36	Cartridge Bronze	(Low)	45.15
Manganese Bronze		½" Thick & over	43.44
Naval Brass		Less than ½" Thick	44.71
B11H38	Admiralty	Less than ½" Thick	47.68
B11H27	Everdur		49.83
Managaese Bronze		Less than ½" Thick	48.44
B11H23	Nickel Silver		55.08
B11H64	Oreide Bronze		47.38
B11H43	Phox. Bronze--	Grade E (1% Tin)	58.67
B11H67	Ambraloy (Alum-Bronze)		57.15
B11H13	Phos. Bronze--	Grade A (4% Tin)	64.71
B11H55	Phos. Bronze--	Grade A (4% Tin)	64.71
B11H14	Phos. Bronze--	Grade C (8% Tin)	68.62
B11H15	Phos. Bronze--	Grade D (10% Tin)	72.32
B11H68	Trodoloy	(Berylco 10)	144.70
B11H51	Beryllium Copper	(Berylco 25S)	155.70

BRASS & BRONZE--WIRE
Base Price As Of February, 1953
Does Not Include Extras

G.E.Spec.	Type	Price/100 Lbs.
B11H46	Yellow Brass	$40.46
B11H21	Yellow Brass (High)	40.46
B11H52	Commercial Bronze	44.67
B11H58	Everdur (3% Silicon)	49.62
B11H17	Everdur (Silicon-Manganese)	49.62
B11H53	Phos. Bronze--Grade A (5% Tin)	64.96
B11H54	Phos. Bronze--Grade C (8% Tin)	68.87
B11H57	Beryllium Bronze (Berylco 25S)	153.70

MACHINE SPEEDS

		Operations per Minute	Average Shop Cost Per 1000
Punch Press-High Speed Auto.	4 tons	250-400	$ .25
Cold Header 1/8" Stock		175-300	.35
Punch Press-High Speed Auto.	15 tons	150-250	.40
Punch Press-High Speed Auto.	25 tons	125-200	.50
Cold Header 1/4" Stock		100-175	.60
4 Slide Machine	Light	75-175	.60
Punch Press	60 tons	75-150	.65
Cold Header	Heavy	50-160	.75
4 Slide Machine	Heavy	50-125	.75
Punch Press--Hand Feed (Blank)	75 tons	50-125	.75
Punch Press--Hand Feed (Blank)	300 tons	40-80	1.25
Thread Roller		40-80	1.25
Screw Head Slotter		30-60	1.50
Automatic Wire Cutter & Stripper		30-60	1.50
Dial Tapper		30-50	1.80
Punch Press-Forming-Slide Feed		30-40	2.25
Punch Press-Forming-Hand Feed		15-30	3.00
Tapping Machine-Foot Operated		15-25	3.75
Tubular Rivetting Machine		8-15	5.50
Resistance Welding Machine		5-10	10.00
Centerless Grinding Machine		2-8	12.00
Molding Machine--Thermoplastic		1-4	25.00
Brazing Machine		1-2	40.00
Molding Machine-Thermosetting		½-1	100.00

OPERATION SPEEDS

	Operations per Minute	Average Shop Cost Per 1000
Take Micrometer Reading	5-8	$12.00
Use GO & NOGO Snap Gage	10-15	6.00
Stamp Part with Hammer	15-20	5.00
Stamp Part with Rubber Stamp	20-30	3.00
Drill Small Hole--Drill Press	4-8	15.00
Pierce Small Hole--Punch	20-30	3.00
Wrap Part in Tissue & Seal in Carton	2-5	25.00
Position Part in "Egg Crate" Carton	10-15	6.00
Pick Up & Position Part in Fixture	15-30	4.00
Pick Up & Drop Part in Fixture	30-50	2.00
Pick Up, Start, & Hand Drive Small Screw	3-6	20.00
Pick Up, Start, & Air Drive Small Screw	10-12	7.00
Power Drive Small Screw--Hopper Feed	10-20	4.00
Rivet With High Speed Hammer (2) Parts	4-8	15.00
Resistance Weld (2) Parts	5-10	10.00
Tubular Rivet (2) Parts	8-15	5.00
Cut -Off Small Tubing - Screw Machine	5-10	10.00
Cut-Off Small Tubing - Abrasive Wheel	30-60	1.50
Count Parts Visibly	60-120	.75
Sort Handful of Parts-(2) Stacks	60-100	1.00
Deburr Small Screw Machine Part	7-12	10.00
Polish Head of Chrome Plated Screw	5-12	15.00
Draw Arc & Hand Weld 1" Pass	3-6	20.00
Ream Hole---Drill Press	2-10	20.00

MAKE UP OF SHOP COST

Shop Cost = Material Plus Direct Labor Overhead

Material

This consists of material in any form of completion as it is received into the division using it, either from the vendor, from another G. E. plant or from a nearby contributing plant. It may be raw material or it may be a finished component.

Raw Stock
Partly finished part
Finished parts
Assemblies (From either a vendor or another G. E. section)

Direct Labor

The pay of the workers who normally touch the part or the machine which handle it, usually changing its characteristics, form, shape or size. This does not include the repair of the machines by merely the attendant who operates the machine as it changes the form of the material. This does not include merely handling the material - moving it from one part of the factory to another.

Overhead or IME = Variable Overhead Plus Fixed Overhead

This includes all necessary expenses to keep direct labor operating efficiently such as power, heat, light, handling, maintenance of equipment, depreciation, rent, idle time, overtime, non-durable tools, telephones, janitor service, salaried office help, etc.

Variable Overhead	Fixed Overhead
Supervisors	Buildings
Foremen	Grounds
Material Handlers	Watchmen
Clerks	Heating
Sweepers	Taxes
Maintenance of Machines	Insurance
Nondurable tools	Etc.
Supplies	

MAKE UP OF MANUFACTURING COST

Manufacturing Cost = Shop Cost & Engineering Cost & Box, Pack and Ship

SHOP COST

This is completely detailed on previous sheet.

ENGINEERING COST OR AAE

This expense is for all engineering, cost of tooling and customer complaints. It represents engineering and drafting salaries, cost of instruction books, sample devices, jigs, fixtures, dies, blueprints, etc.

1. To liquidate development cost.
2. To continue development to improve the product.
3. Necessary Engineering on problems arising constantly.
4. To liquidate cost of similar unsuccessful developments.
5. Cost of production dies, jigs, fixtures, molds.

Box, Pack and Ship

This covers the boxing of the completed product, packing it and transporting it internally.

MAKE UP OF SELLING PRICE

SELLING PRICE = Manufacturing Cost & Commercial and Administrative Costs & Profit

Manufacturing Cost

As previously detailed on previous sheet.

Commercial and Administrative Costs

This covers the expenses of the commercial division and the administrative officers of the Company

Profit

This is the amount which is added to provide earnings.