Contents

| Cleaning of Electron Tubes an | d V | acvu | m (| Con | npo | nen | ts | | | | | | | | | 1 |
|--|------|-------|-----------|------|------|------|------|-----|---|---|---|---|---|---|---|----------|
| Cleaning procedures . Electropolishing | • | • | • | • | • | • | • | • | • | • | • | • | • | • | • | 3 18 |
| Electroplating and Stripping . | | | | | | | | | | · | - | | • | • | • | 23 |
| Plating in general | | | | | | | | | | | | • | · | • | • | 23 23 |
| | ths | : | : | : | : | ÷ | • | • | • | • | • | · | • | · | • | 23 25 |
| | | | | | | | | | • | | | : | : | : | • | 33 |
| Heat-Treating and Brazing | | | | | _ | | | | | | | | | | | 35 |
| Hydrogen brazing | | | | | | | | | | | | • | • | • | • | 35 |
| Preparation of the work | for | brazi | ing | | | ÷ | | | : | | : | • | • | • | • | 39 |
| Bottle brazing | • | • | | | • | | | | | | | | | | | 39 |
| Stainless steel | ÷ | •. | • | ۰. | • | ÷ | • | • | • | • | • | | | • | | 41 |
| Heat-treating, degassing, austenitic stainless stee | ciea | anin | g, a ⊾ | ind | bra | zin | g | | | | | | | | | |
| | | | | | | | | | | • | • | · | • | · | • | 41 |
| Induction Heating: Radio-Freq | vend | :y H | eati | ing, | Bo | mbe | ardi | ing | ٠ | • | • | | • | • | • | 51 |
| Glass-to-metal Seals | • | • | • | • | • | • | • | • | | • | • | | | | | 54 |
| Metal and Ceramic Bonding | | | • | • | | | | | | | | | | | | 67 |
| Tube Laboratory Procedures | | | | | | | | • | | | | | | | | 75 |
| Heater Design and Preparation | ι. | | | | | | | | | | | _ | | | | 80 |
| Tungsten filaments—dire Thoriated tungsten emiti | | | | • | • | | • | • | | • | • | • | • | | | 86 |
| Nickel Bases for Oxide-coated | | | | | • | • | · | • | • | · | · | · | · | • | · | 89 |
| Other cathode materials | | | | | · | · | • | · | • | • | • | • | · | • | • | 93 |
| | | • | · | • | · | • | · | · | · | · | • | · | • | · | • | 95 |
| Oxide-coated Cathodes Genera | | • | - | • | • | • | • | • | • | • | • | • | • | | • | 96 |
| Philips cathodes | | • | · | • | • | • | • | • | • | • | • | • | • | • | • | 103 |
| Getters and Getter-ion Pumping | - | | • | • | | • | | | | | | | | | | 105 |
| Titanium-ion pumping | • | • | • | • | • | • | | | | | | | • | • | | 106 |
| Cryopumping | • | | | | | | | | | | | | | | | 110 |
| Ultrahigh Vacuum | | | | | | | | | | | | | | | | 110 |
| Vacuum Techniques, Design Pr | roce | dure | s. c | ınd | Cor | ıstr | veti | on | | | • | • | • | • | • | |
| of Vacuum Tubes and Vesse | | | | | | | | | | | | | | | | 112 |
| Metals in the construction | | | | n sy | yste | ms | | | | | | | | | • | 116 |
| Step-type demountable m | | | | | | | | | | • | | | | | | 117 |

-

| Gas Filling of Tubes | | | | | | | | 119 |
|--------------------------------|------|--|--|--|--|--|--|-----|
| Hydrogen-filling by diffusion | | | | | | | | |
| Metal Bellows | | | | | | | | |
| Procedure for Assembling Tubes | | | | | | | | |
| Leak Detection | | | | | | | | |
| Vapor Pressure | | | | | | | | |
| Vapor pressures of the eleme | ents | | | | | | | 142 |
| Glossary—Exhaustive Listing of | | | | | | | | |
| Author Index | | | | | | | | |
| Subject Index | | | | | | | | |