TAPIOCA INDUSTRY

During the last few years a few of the factories on Java's 137 tapioca estates have been electrified. As power becomes cheaper and more available, there is little doubt that many of the factories will be electrified. In an electrified tapioca factory the roots are carried by electric conveyors to tanks where they are washed by paddles that are also electrically driven. The roots are then placed in disintegrators, which are usually operated by individual electric motors of about 20 horsepower. After the disintegration process the tapioca is drawn by suction pumps to electrically operated sieves, where it is sorted into the various grades.

COPRA INDUSTRY

A similar process is employed in the electrified copra-crushing mills in the Netherland East Indies. After the sun-drying process to remove the moisture the copra is disintegrated by machines that are usually driven by electric motors of a slightly higher horsepower than those in the tapioca industry. The disintegrated copra is crushed to a meal by rollers operated by 12 to 15 horsepower motors and from there is pumped to the hydraulic presses by electrically driven pumps.

ELECTRIC MOTORS

Although motors in use in the Netherland East Indies must comply with the "Standardization Rules of the American Institute of Electrical Engineers" or with "Die Normalen fur Bewertung and Prüfung von Electrischen Maschinen und Transformatoren des Verbandes Deutscher Electrotechniker," comparatively few American motors are in use in the islands. Some of the American motors that have been imported in the Netherland East Indies have given excellent results, but many have been unsatisfactory and caused the buyers much trouble because the American manufacturer had not constructed the motors to suit the tropical climatic conditions and current characteristics of the country. As previously mentioned, 3-phase, 50-cycle, 127/220 volts current has been standardized, and manufacturers must make their motors adaptable. Furthermore, unless special windings are used on the motors exported to the Netherland East Indies, the intense humidity causes the insulation to break down after a few days.

The largest trade in alternating-current motors is in the sizes from 5 to 25 horsepower. Larger motors are used to operate the gravel pumps in the tin mines and by the sugar mills, but orders for motors of over 100 horsepower are rare. The largest motors used in the Netherland East Indies are those of 250 horsepower, used in the electrified sugar mills. Slip-ring motors are favored and are usually required by the power companies. It is reported that the Government favors squirrel-cage motors with a double cage (high torque starting). Direct-current motors are used only by factories or individuals making their own power.

Squirrel-cage induction motors, connected directly to the low-voltage distribution circuits of the public-utility companies are prohibited unless equipped with some form of starting equipment which limits the current they take from the line at time of starting.