

JIS

JAPANESE INDUSTRIAL STANDARD

**Thyristorstacks for resistance
welding machine**

JIS C 9319^{—1991}

Translated and Published

by

Japanese Standards Association

In the event of any doubt arising,
the original Standard in Japanese is to be final authority.

1. Scope

This Japanese Industrial Standard specifies thyristorstacks for resistance welding machines, hereafter referred to as the "stacks", composed of two thyristors connected inverse-parallel used in a main circuit of single phase a.c. at a nominal voltage of 200 V or 400 V and a frequency of 50 Hz or 60 Hz.

Remarks: In this standard, the units and numerical values in { } are based on traditional units and are given for reference only.

2. Definitions

For the purpose of this standard, the following definitions apply:

The words "maximum" and "minimum" described in items (17) to (24) as "maximum" and "minimum" mean the upper limit value and the lower limit value of dispersion of the characteristic items following "maximum" and "minimum" for all thyristors of the same type, respectively.

- (1) r.m.s. current (r.m.s. value) The r.m.s. current means the r.m.s. value of a current which can be fed to the load through a stack when the welding current is passed under the specified cooling condition. This definition is generally based on sinusoidal wave, but even if heat control is performed it is expressed in r.m.s. value.
- (2) duty cycle The duty cycle is a percentage ratio of welding time (number of cycles) to the total time (called welding cycle, and number of cycles) from the beginning of one welding time to the beginning of the next welding time, and expressed in the following formula:

$$\alpha (\%) = \frac{n}{N} \times 100$$
 where α : duty cycle
 n : welding number of cycles
 N : number of cycles in one welding cycle
- (3) on-state voltage The on-state voltage is a voltage between anode and cathode in on-state.
- (4) on-state current The on-state current is an anode current in on-state.
- (5) off-state voltage The off-state voltage is a voltage between anode and cathode in off-state.
- (6) off-state current The off-state current is an anode current in off-state.