

SCOPE OF SUPPLY AND SERVICES TO BE PROVIDED BY THE CUSTOMER / CORR24

of Corr24 GmbH
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General Machine-Related Prerequisites

The machine must be provided in cleaned condition at the time of installation. This shall particularly include control cabinets and all points where conversions are performed. Any additional costs from increased time expenditure caused by contaminated workplaces shall be at the purchaser's expense. Extremely contaminated machines may endanger the planned start-up date.

The following items are to be provided by the customer in general:

- a) The design and implementation of any necessary re-enforcement of the floor etc. and other data or calculations from Corr24 for the building work, alternative foundations or steel frames as well as all packing shims for leveling the machines, manufacture of supports for drives, switch cabinets, pedestals, consoles and suspensions.
- b) Provision of a crane and crane driver as required for unloading of the components, internal transportation and placing on the foundation. Removal as well as repositioning of possible replaceable aggregates.
- c) Fork lift truck and certified driver for unloading of the components and for the installation period.
- d) Packing material, assembly tools, no longer required installation and start-up material belongs to Corr24 and has to be sent back to Corr24 after end of installation.
- e) Appropriate lock-up day rooms are to be provided for the use of Corr24 installation personnel where personal belongings, tools and equipment may be stored. In the event of any items going missing, the customer will be responsible for replacements.
- f) The customer is responsible for ensuring that reasonable working conditions prevail, that structural safety on site is maintained and that applicable safety regulations are observed.
- g) The installation starts on prepared foundations. Any structural work, especially the manufacturing of the foundations and of the steel plinths (welded construction) instead of concrete foundations will be made by the customer according to Corr24 drawings in time prior to start of the installation. This is also valid for required modifications of surrounding equipment, such as bridge adaptations, modifications of catwalks, transfer tables, etc..
- h) Water lines for cooling and cleaning will be brought by the customer to the appropriate points on the machines and connected. In addition, the customer will be responsible for draining away effluent and water from the machines' area. Cooling units for closed cooling water circles (e.g. Single Facer, Cut-Off, etc.) incl. supply and return pipe.
- i) Compressed air supply up to connection to the machines.
- j) Heating and cooling of the hall.
- k) Air conditioning of switch cabinets and control desks (required for an ambient temperature of 30°C plus) as well as condensate removal.
- l) Overhead lighting and illumination of the machines and switch cabinets.
- m) Cable ducts under floor, cable trays above floor as well as all installation material to be provided by the customer.
- n) The supply lines and cables up to the Corr24 switch cabinets have to be made available and laid by the customer, as well as cable ways and necessary installation material. Cable ways between switch cabinet, panels, and machine have to be provided independently, according to power, controls and electronics- always allowing for a minimum of 0,5 meters.
- o) Ventilation and extraction in so far as these need to be provided in the vicinity of the corrugator.
- p) First grease and oil fill of the machines.
- q) The customer will provide raw-, auxiliary- and operating material as well as lubricants and greases, even if they are required for test runs.

r) Specific noise-absorbing measures at the corrugator, (see item "Safety regulations") e.g. sound insulation cabins for the machines.

s) Waste removal system from pick-up points.

t) Starch supply unit, feed and return of starch as well as starch pumps for the corrugator.

u) Cleaning of site during and after installation.

v) Restitution of the floor, walls etc. as necessary for the operation.

w) If interfaces are included in the order, they are implemented according to the Corr24 standard protocol valid at the time. Implementation on the receiving side of the interfaces (e.g. existing machines, host computer, etc.) and their cost have to be borne by the customer.

x) The electrical supply has to ensure that short-term voltage spikes are avoided and that a constant power supply without short-time interruptions is ensured.

Specification:

Voltage: 3 x 400 V, ± 10 % PE

Frequency: 50/60 Hz ± 0.1 %

Standards: EN 60 204-1 and 1010-5 / IEC 60 204-1
For North America, the UL 508-A is integrated

Protective measures: grounding (earthing)

Note: safety circuit not permissible

Power supply form: TN according to the above mentioned standards

Harmonics: the maximum values for harmonics must comply with the above mentioned standards

Note:

If the customer's existing voltage supply does not correspond to a TN power supply, appropriate isolation transformers have to be provided by the customer.

Corr24 generally recommends the installation of a controlled and throttled compensation device.

If the harmonic waves of the low voltage distribution exceed the maximum values of standard "EN 60 204-1; item 4.3.2", the customer has to provide a controlled and throttled compensation device.

The supplier does not accept any liability for damage to persons or machine breakdowns that may arise from non-observance of this specification.

In case of a different voltage a technical consultation with Corr24 is required.

y) The customer has to provide a connection to the internet (IP-address, subnetmask, gateway) for the firewall/VPN-System as far as these are part of the scope of supply:

- Standards: Cat7e and 100baseT/ minimum bandwidth LAN: 100MBit/sec / minimum bandwidth WAN: 1MBit/sec

- furthermore a port regulation has to be enabled

z) For the steam and condensate system:

- Insulation of pipes and tanks against loss of heat.

- Steel support brackets and other supporting members along the corrugator.

- Cooling water (? 15°C) and piping.

- Compressed air supply systems and piping.

- All steam and condensate pipes between the corrugator and the boiler house.

- Constant steam pressure = 15 - 16 bar.

- Saturated steam degassed and air-exhausted

- Fresh-water preparation with thermal de-aeration at approx. 103 °C

- The main pipes should have degassing and drainage facilities.

- Pressure and temperature recorder at the distributor in the boiler house.

- Assembly, layout and inspection of the piping in accordance to Directive 97/23/EC concerning pressure equipment or country-specific applicable regulations.

Pressure reduction unit as well as pressure- and temperature recorder and printer at the main pipe have to be supplied by the customer in the area of the first Single Facer.

Hamburg, 1st of October 2020