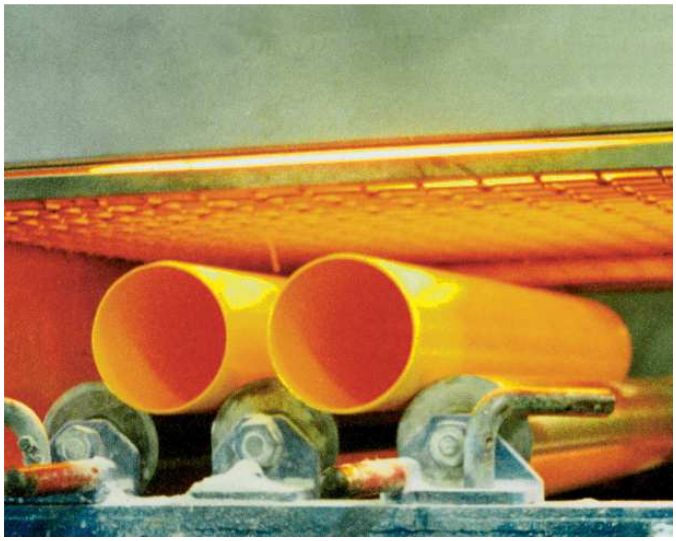
Infrared Heat forms Plastic Tubes efficiently

Plastic tubes are bent into shape, provided with grooves for sealing rings or they have sleeves so that they can be inserted into each other. Conventionally hot air, heating sleeves or hot liquid baths have been used to soften the plastic before forming it. Infrared emitters transfer energy in a contact-free manner and generate heat primarily in the material. As a result heating takes place uniformly and no material sticks to the heat source. The targeted and controllable heat prevents thermal damage or messy pressure points.
Infrared emitters heat targeted areas of a tube or pipe, as the heated length of the emitter can be matched to the bending radius. In contrast to a hot air oven, the edge areas remain relatively cool, which permits the component to be clamped, facilitating process automation. Infrared emitters can be precisely matched to the material and process and this saves energy. Due to the high heat transfer capacity of infrared radiation, heating times can also be reduced, which means production is faster or valuable production space is saved.
Conventionally, the sleeving of tubes takes place with the aid of heating jackets, which transfer heat into the plastic through close contact. Shortwave Omega emitters are circular and can heat small sections in a targeted manner. Omega emitters or small flat emitters arranged in a circle heat the tube ends without contact to make the plastic there soft, so that a sleeve socket can be formed.
Shortwave infrared emitters have an on/off response time of less than one second so that they can be easily controlled. They transfer heat rapidly at high efficiency. Infrared emitters need be switched on only when energy is needed and this is another energy-saving feature. As well as shortwave emitters, Heraeus Noblelight also offers Carbon infrared emitters with a spectrum which is particularly well matched to the absorption characteristics of plastics. Carbon infrared emitters combine highly effective medium wave radiation with the fast response times of shortwave emitters.



Features

- Bending of PVC tubes of 3 to 10mm wall thickness
- Shorter heating times for higher production speed
- Efficient heating saves energy

Technical Data

- Carbon Infrared heater
- 44kW/m^2
- 12 Carbon heaters, 2 KW each
- Heating station with different zones according to size of the tubes
- Heating time 3 to 15 minutes according to thickness
- heating up to 140°C

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