

# Drying technology

## Thermal drying

### Optimised air circulation and temperature control

Quick and consistent heating of the metal sheets in the oven is achieved by a special injection nozzle system (illustration 1).

Once the drying temperature is reached, the metal sheets are consistently baked at the temperature within +/- 1.5 % (illustration 2).

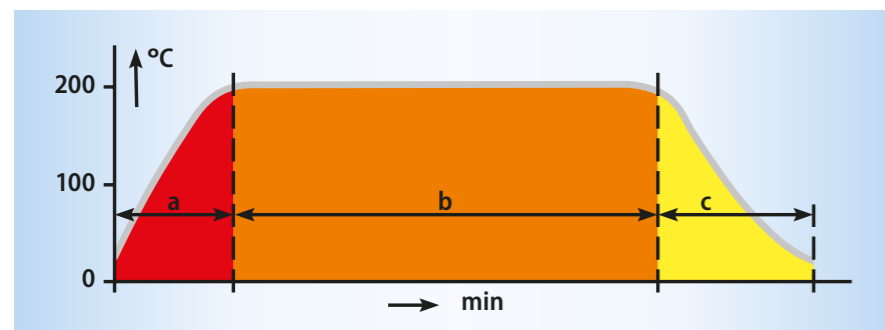


Illustration 2: Metal temperature curve

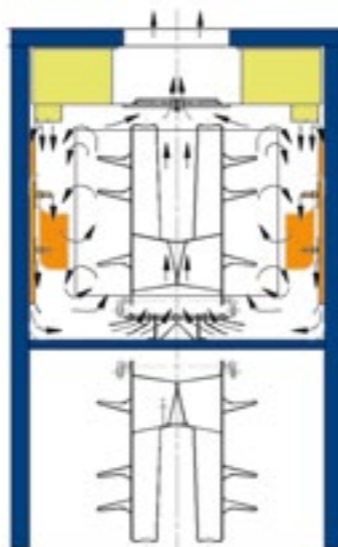


Illustration 1: Air circulation within the oven

Total curing times										
Speed	Tunnel length									
	18 m	21 m	24 m	27 m	30 m	33 m	36 m	39 m	42 m	
5 000 sheets/hour	8,6	10,0	11,5	13,0	14,4	15,8	17,3	18,7	20,1	[min.]
6 000 sheets/hour	7,2	8,4	9,6	10,8	12,0	13,2	14,4	15,6	16,8	[min.]
7 000 sheets/hour	6,1	7,2	8,2	9,2	10,2	11,3	12,3	13,3	14,4	[min.]
8 000 sheets/hour	5,3	6,2	7,1	8,0	8,8	9,7	10,6	11,5	12,4	[min.]



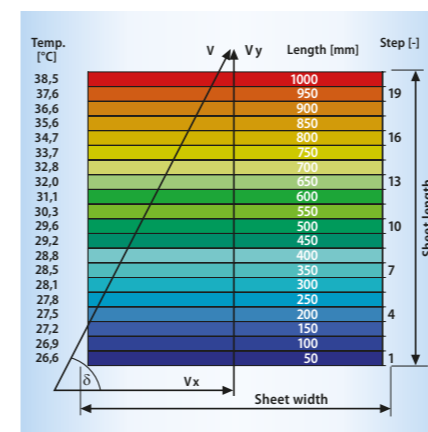
# Cooling / Control

## Cooling

### Effective cooling by means of high cooling air volume

The effectiveness of the cooling zone depends on different parameters such as length of the cooling zone, direction of air flow, specific air volume, temperature of the cooling air, sheet gauge and size, speed etc. KBA-MetalPrint uses specially developed simulation software based on a large range of gathered data to obtain the most effective possible cooling in real production situations.

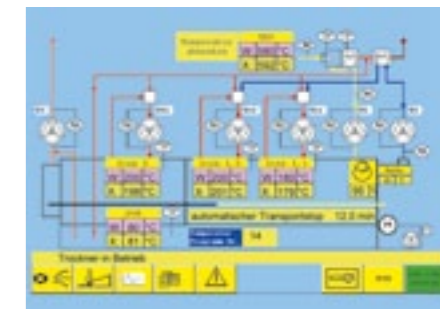
### Surface temperature curve along the sheet after leaving cooling zone



Temperature distribution on the sheet

### Optional extras for cooling

- Frequency controlled fans
- Outside temperature controlled cooling capacity performance
- Louver damper system
- Active cooling (air conditioning supported)
- Silencers



Touch panel view of the oven process

## DigiVent S7 Control

The DigiVent Control System provides many additional features to improve efficiency, maintenance and quality by means of:

- Total visualisation of drying process
- PLC temperature control and monitoring
- Fault logging and archiving function
- Capture and recall of product coating programmes
- Digital temperature recording
- Automatic start and shutdown sequences
- Remote service via VPN router through internet