

**YILSA®**

YILDIZ ENDÜSTRİYEL ARAŞTIRMA MERKEZİ

MACHINE CATALOGUE

CODE: KK-RB

Roll Forming

16–18 Station Roll Forming Machine (Roll Forming Profile Line)



With 16–18 stations of forming rolls, it shapes the cut-to-length perforated sheet step by step into a cable tray without strain. Its motorised NC system changes size without changing rollers.

16 – 18 Stations

NUMBER OF STATIONS

**4 – 6 Tonnes /
Day**

CAPACITY

50 – 600 mm

WIDTH

**Motorised NC
Size Change**

ADJUSTMENT TYPE



01 Overview

The Roll Forming Machine, the profile forming unit of the Cable Tray Production Line, turns cut-to-length perforated sheet into a cable tray profile in progressive stations without damaging the galvanised layer.

- ✓ Forming without damaging the galvanised coating, with 16–18 progressive forming stations
- ✓ Width and height adjustment with a motorised NC system, without changing rollers
- ✓ Forming rolls made of surface-hardened C 4140 steel
- ✓ Orderly feeding and collection with an infeed conveyor and run-out table

02 Technical Overview

16–18 Station Progressive Profile Forming and NC Adjustment System

What Is a Roll Forming Machine?

A **roll forming machine** (roll former) is a cold-forming machine that shapes sheet step by step into the required profile by passing it between forming rolls in a series of stations. Because the bending is done gradually rather than in a single stroke, the material is not strained and the section stays constant along the profile.

The YILSA roll forming machine is designed for the cable tray profile and works in the Cable Tray Production Line after Rotary Punch punching, straightening and guillotine cut-to-length.

Method: Progressive cold forming | Product: Cable tray profile

Progressive Profile Forming and Protection of the Galvanised Coating

16–18 progressive forming stations prevent the sheet from being bent abruptly and bring it to its final shape with smooth transitions. This gradual process prevents flaking and cracking of the galvanised coating.

The forming rolls are made of **surface-hardened C 4140 steel** and the shafts of **C 1050 steel**.

Number of Stations: 16 – 18 | Roll Material: C 4140

NC Size Change Without Changing Rollers

Instead of the hours-long roller changes of conventional lines, the **motorised NC adjustment system** sets width and height to the values entered on the operator panel.

The system produces **tray widths from 50 mm to 600 mm** (up to 1000 mm on special projects) and **side heights from 40 mm to 100 mm**.

Width: 50 – 600 mm | Side Height: 40 – 100 mm



Drive, Speed and Capacity

Depending on the line model, the roll former has **11 – 22 kW** of drive power and runs at a forming speed of **24 – 36 m/min**.

Sheet cut to length by the guillotine is fed into the machine via the **infeed conveyor**, and the formed trays are collected on the **run-out table**; **4 – 6 tonnes** of cable tray are produced per day.

Drive: 11 – 22 kW | Capacity: 4 – 6 Tonnes / Day

03 Technical Specifications

Profile Forming

Number of Stations	16 – 18 Stations (depending on model)
Tray Width	50 – 600 mm (up to 1000 mm on special projects)
Side Height	40 – 100 mm
Production Capacity	4 – 6 Tonnes / Day

Mechanics & Drive

Motor Power	11 – 22 kW (depending on model)
Forming Speed	24 – 36 m/min
Forming Rolls	C 4140, surface-hardened
Shafts	C 1050 steel



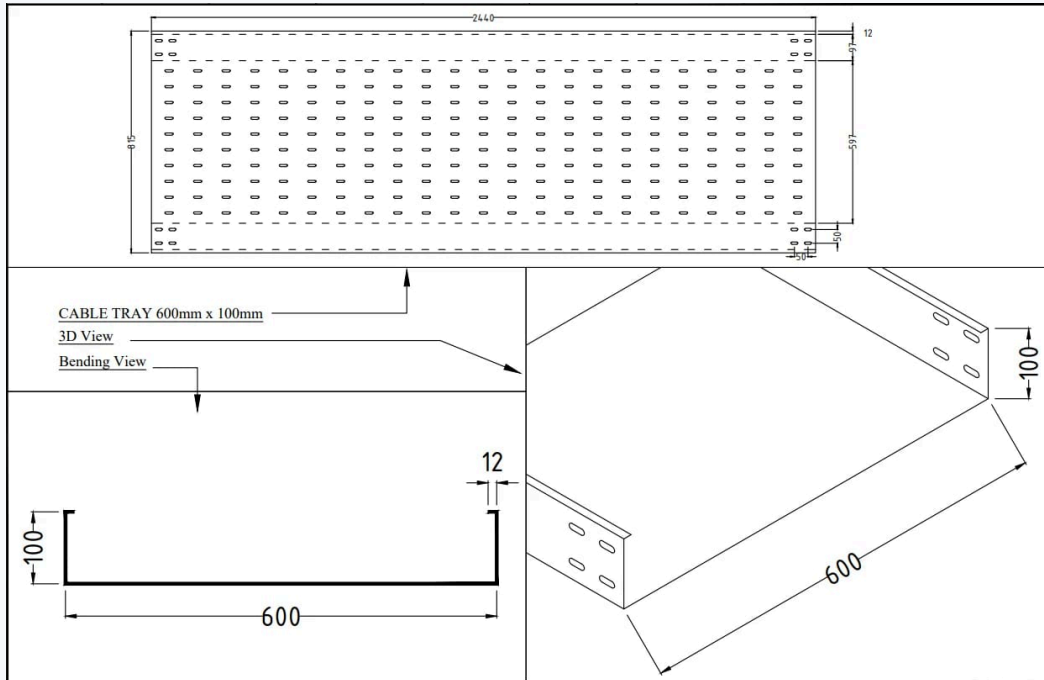
04 Model Options

Roll forming system — standard models		
Feature	500 mm model	1000 mm model
Forming station	16	18
Max. strip width	500 mm	815 mm
Sheet thickness	0.7 – 2.0 mm	1.5 – 2.0 mm
Main drive	11 kW AC, series-connected bevel gear units	22 kW AC, speed-controlled
Production speed	Max. 36 m/min	About 24 m/min
Size change	Motorised NC	Motorised NC
Infeed conveyor / exit table	4 m / 4 m	3 m / 3 m

500 mm and 1000 mm are the standard configurations; the hole pattern, tray dimensions and number of stations are adapted to the customer's product drawing.

How the system works

- 1 The punched and cut-to-length sheet drops onto the roll forming infeed conveyor.
- 2 The conveyor feeds the sheet into the roll former; the forming rolls bend it step by step into the cable tray profile.
- 3 The finished tray moves onto the exit table and is collected by the operator.



Sample cable tray drawing (600 × 100 mm, C-edge)



Standard-duty (NKT) cable tray



Heavy-duty (AKT) cable tray

05 In the Production Line

Cable Tray Production Line

www.yilsa.com.tr/en/cable-tray-production-line



01

Uncoiler



02

Rotary Punch Punching



03

Straightener Feeder



04

Roll Forming

The Cable Tray Production Line punches galvanised or black coil sheet without stopping it, straightens it, cuts it to length and roll-forms it into the final cable tray profile. Running 4–6 times faster than conventional press lines, it produces about 1,400 metres of perforated sheet per hour and can be run by a single operator.

06 Service and Support

Acceptance test

Before delivery, the machine is tested at the YILSA plant under the buyer's supervision with test material supplied by the buyer; it is delivered once it produces the specified product.

Installation and training

The line is installed and commissioned at the buyer's plant by the YILSA team, followed by a total of 2 days of installation, operation and maintenance training for the staff. The installation area, pits, air and power connections and a forklift/crane are provided by the buyer.

Warranty

Mechanical parts carry a 1-year warranty, excluding misuse. Dies and blades are wear parts and are not covered by the warranty.

Spare dies and drawings

Heat-treatment and material certificates are supplied for the dies. Spare dies are made for a fee; die drawings are shared on request.

Technical support

Technical support is provided, with on-site service when needed. Travel and accommodation costs for on-site service are paid by the buyer.

Compliance and delivery

CE marked; designed in line with Machinery Directive 2006/42/EC, EN ISO 12100:2010 and EN 60204-1:2018; 100% made in Türkiye. Delivery time for the cable tray line is 8–10 months from order confirmation.

Raw material must meet the specifications given by YILSA. The values in this catalogue are for standard configurations; machines can be adapted to your product drawing and raw material.



Machine and line solutions built for your production

Since 1992 in Denizli, Türkiye, we have been designing and building Rotary Punch technology, cable tray systems, wheel weight lines and wire processing machines. Share your product drawing and raw material, and we will prepare a configuration and quotation for you.

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100% MADE IN TÜRKİYE

PATENTED ROTARY PUNCH

PLC/HMI CONTROL

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