



## Extrusion of technical profiles and pipes



**T**echnical profiles and pipes are used in many different fields throughout the world. This includes the construction sector as well as the furniture industry, the white goods industry and automotive manufacturers. For this reason, technical profiles and pipes are the most versatile products manufactured on WEBER extruders.

The knowledge of the customer's requirements is equally as important as the long standing experience of WEBER manufacturing.

The WEBER specialists are always in touch with their customers to drive constant development of the machines. The result is: Top quality made in Germany.

## The best properties – the best quality

The variety of polymers, compounds and compound systems allow for application-specific and individual solutions in the extrusion of technical profiles. The selection and mixture of the materials used influence strength properties, ageing properties, UV resistance, elasticity, geometric design and many other aspects.

WEBER co-extrusion technology is used increasingly to meet the different requirements of extruded products. This allows specific use of the different polymer properties to achieve perfect results.

### Advantages of WEBER extruders for technical profiles and pipes

- High technical standard through long-standing experience and further development
- Highest level of flexibility through high vertical integration
- Complete systems for manufacturing technical profiles
- Complete systems for manufacturing PA, TPU, PC/ABS and POM pipes

### Single screw extruder ES series and *Super Edition Series*

Extruder	Feed zone plain	Feed zone grooved	Output* PP [kg/h]	Output* PS [kg/h]	Output* PE-HD [kg/h]	Output* TPE <sup>1</sup> [kg/h]	Output* polyamide PA <sup>2</sup> [kg/h]	Output* PS-Copolymerisate <sup>3</sup> [kg/h]	Output* PVC-P [kg/h]	Output* PVC-U [kg/h]	Output* PC [kg/h]
ES / ZE 20	■		4	4	5	7	8	15	6	6	
ES 30 / ZE 30	■		12	20	15	25	25	30	18	25	20
ES / ZE 30 N		■	14	25	18	35	28	35	25		
ES / ZE 45	■		32	45	40	40	60	45	40	60	35
ES / ZE 45 N		■	36	50	50	50	70	55	50		
ES / ZE 60	■		50	65	60	60	80	80	60	80	80
ES / ZE 60 N		■	60	80	80	70	85	100	85		
ES 80**	■		100	120	140	100	120	140	110	110	100
ES 100**	■		140	140	200	140	140	160	180	180	140



\* These values are based on existing processing data and can vary depending on application-specific requirements or the type of polymer/manufacturer used.

1 thermoplastic elastomer, e.g.:

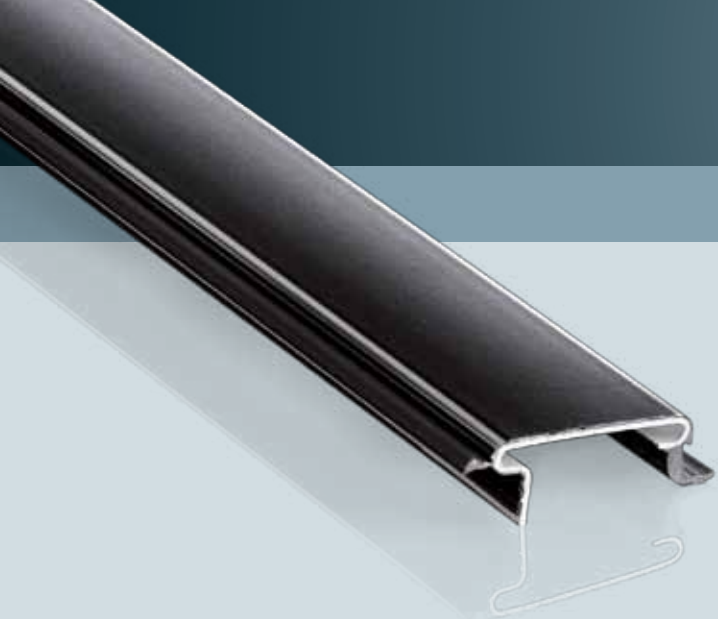
TPO, TPV, TPS, TPU

2 PA 12, PA 6, 6.6

3 e.g.: ABS, ASA

\*\* not available in the *Super Edition Series*

# Extrusion of technical profiles and pipes



Single screw co-extruder ZE 20 Super Edition



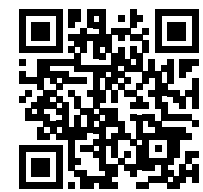
ES 60 Super Edition



Fields of application

Extruder series	PVC		PO	Technical plastics					
	powder	pellets	polyolefins	polyamide	thermo-plastic elastomers	styrol polymers	poly-acrylate	poly-acetate	poly-carbonate
	PVC-U	PVC-U	PE, PP	PA 6, PA 6.6, PA 12	TPO, TPV, TPS, TPU	SAN, ABS, ASA, PS	PMMA	POM	PC
DS <sup>1</sup>	+	+	o	-	-	+	-	-	-
CE <sup>2</sup>	+	+	o	-	-	+	-	-	-
ES <sup>3</sup>	o	+	+	+	+	+	+	+	+
ES N <sup>4</sup>	-	-	+	+	+	o	o	o	o
NE <sup>5</sup>	-	-	+	o	+	o	o	o	o

+ suitable  
o limited suitability  
- not suitable



- 1 cylindrical twin screw extruder DS
- 2 conical twin screw extruder CE
- 3 single screw extruder ES
- 4 single screw extruder with grooved feed ES N
- 5 HighPerformance grooved bush extruder NE

## Attachments

From granulating heads and force feed units to dosing units: WEBER accessories are the ideal complement for the different extruder models. They, too, focus on individual customer requirements to create an application-specific overall package.

### Granulator head KG 7

- Production of PVC granulate
- Hot haul-off principle
- Cut with a rotating blade
- Individual arrangement of rows of holes and hole diameters
- Blade circumference speed continually adjustable
- Suitable for all extruders of the DS and CE series

### Capacity table for head granulator KG

Type	max. throughput [kg/h]	Material
KG 7	approx. 1,500	PVC-U, PVC-P

### Force feed units DW 2 and DW 4

- Suitable for materials with poor flow properties
- Suitable for materials with low bulk density (e.g. PVC-P powder)
- Optionally pressure controlled

### Capacity table for force feed units

Type	Force feed unit screws $\emptyset$ [mm]	max. feed capacity PVC-P [kg/h]	Recommended for extruder sizes
DW 2	110	1,000	DS 9, DS 11, DS 12
DW 4	130	1,500	DS 13, DS 15





### WPC dosing station

Material feed unit for processing loose fibres, consisting of:

- Funnel for attaching up to 6 screw dosing units
- Integrated agitator RWF
- Integrated force feed unit DWF



Capacity table  
for belt dosing units

Type	Feed capacity [kg/h]
DO 3	0 – 80
DO 4	50 – 650
DO 4.1	150 – 1,100

### Belt dosing units DO 3, DO 4 and DO 4.1

- Available in three sizes
- Suitable for special tasks
- Continuous material feed
- Continuously adjustable drive
- Easy to mount on existing base plate of slide hopper
- For all extruders from the DS and CE series





## WPS3 – the simplest controller ever



Extrusion systems are becoming increasingly complex. Improved technical standards also increase the requirements for the operating unit. A simple controller is the prerequisite for an efficient production process and perfect results.

WEBER therefore have especially focused part of their research efforts on the

further development of the operating element. The result is a pioneering solution. WPS3 – that is the controller of the future which is now used for almost all WEBER extruder models. It makes operation of the extruder easier than ever and has many new convincing features as well as a graphic display concept in full HD resolution. Smarter, easier, with more ideas – the new WPS3 from WEBER.

## WPS3 – the brand new „cockpit“ for WEBER extruders

More structured, more intuitive, simply better: Nearly all WEBER extruders now feature the WPS3 operating unit. By means of this new development the control of the lines becomes easier.

The 21.5" touch screen in full HD resolution (16:9) and the display with modern smartphone design makes operation of the extruder easier than ever before.

### Features:

- Operating system based on Windows 7®
- Intuitive operation
- Keypads integrated into the panel and wheel for exact set values
- Graphic display of the machine on a full HD touch screen (16:9)
- All relevant machine data at a glance
- Integrated analysis function
- Integrated SQL server for data recording and web server (PHP) for data queries
- Integrated interfaces CAN and X2X bus
- Optional: Profibus, Powerlink and OPC
- Remote query if an internet connection is available
- Pre-heating of the machine using timer function

### Better safe than sorry

The computer unit of the WPS3 system is located in the extruder control cabinet to benefit from the cooling. Only the operating panel is located outside the machine. This concept ensures maximum system reliability, especially in hot regions – even at tropical temperatures.







## WPS3 – the solution for the future



### Operating station

- 21.5" full HD TFT touch display
- 16 illuminated buttons
- Wheel for drive adjustment and i-Touch feeling
- Integrated emergency stop button

### Automation PC 910

- Multicore technology for maximum performance
- Own processor core for Soft PLC ARWin
- SQL server for data storage
- WEB interface for machine documentation, data query and logging functions
- Ethernet for internet/intranet connection
- Separate Ethernet interface for integrating other control units

### X20 IOS system

- F-Modules for flexible connection
- Digital inputs and outputs
- Analogue inputs and outputs U/I
- Thermal element inputs
- Material pressure interface
- Further CAN-Bus interfaces, e.g. for gravimetry/Euromap27