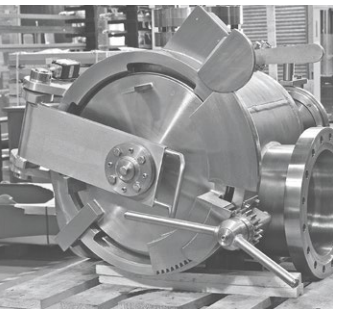
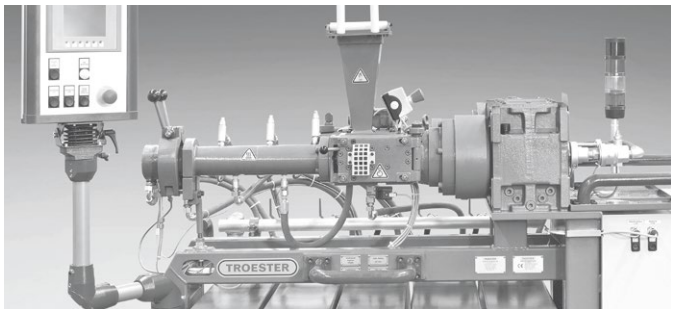
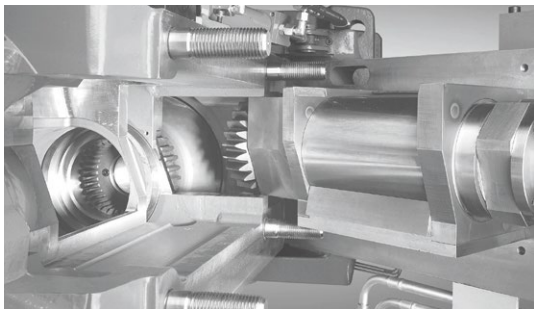
CV Lines for the Production of Rubber Cables







TROESTER

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CV Lines for the Production of Rubber Cables

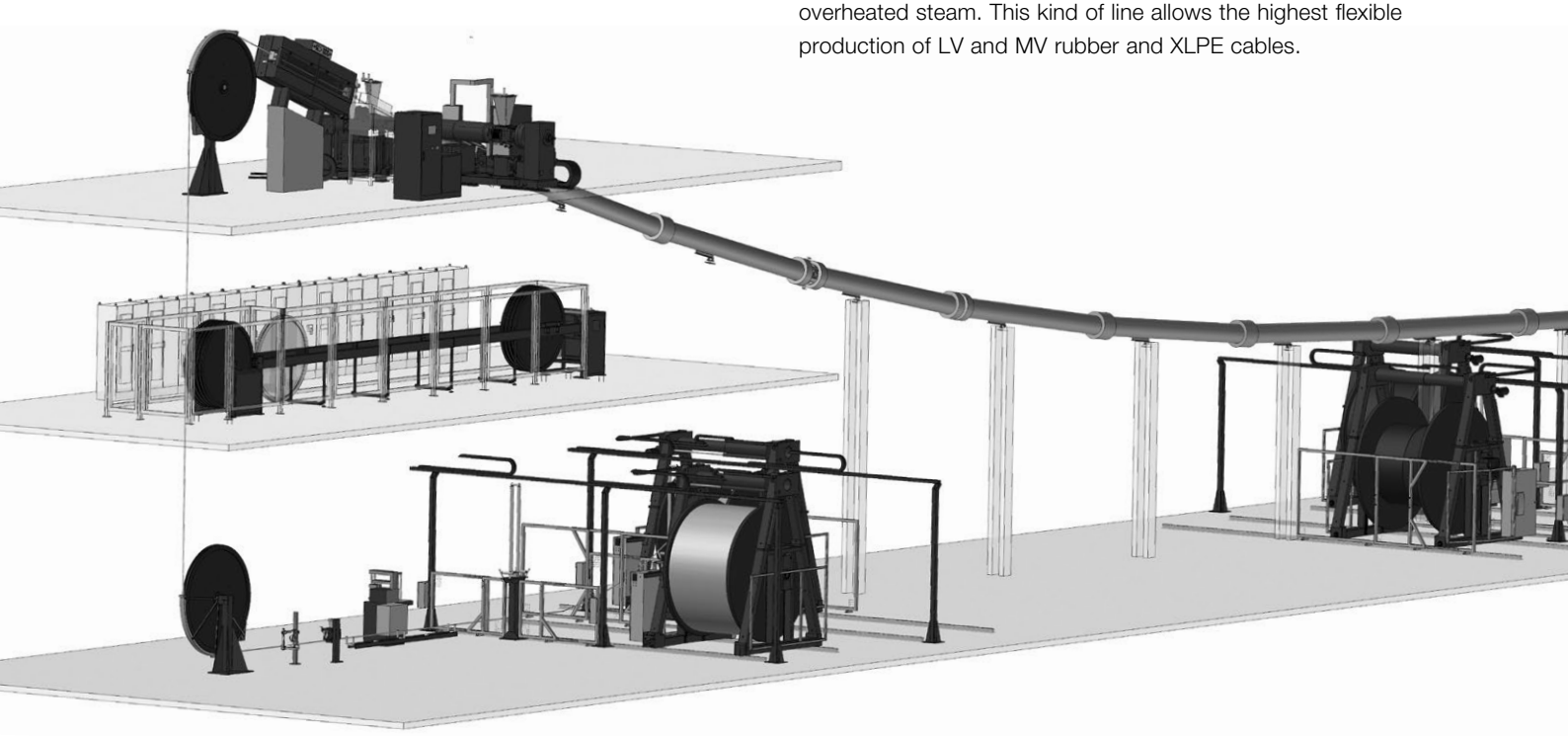
Rubber compounds are used for various applications where for example flexibility or chemical resistance of the cable is required.

The rubber cables are vulcanized with saturated steam at pressures of 18 - 24 bar. According to cable weight and cable diameter, the cables are produced either on Horizontal Rubber CV-Lines or on Catenary Rubber CCV-Lines.

The lines are equipped with up to 3 extruders to produce cables in various designs: 1- or 2-layer insulation or sheathing, additional stripes or skin layers or 3-layer extrusion for medium voltage cables. Special tools and equipment allow the production of flat cables as well. A TROESTER developed line control system which is optimally matched to rubber CV lines ensures safe and easy handling and operation.

Combined Rubber & XLPE Extrusion Lines, Overheated Steam

For the flexible production of Rubber and XLPE MV Cables on the same line, combined lines for such purposes are available. To meet each process the best way the line can be equipped with both, steam and nitrogen curing circuits and either combined or individual extruders for each material. The CV tube is equipped with heating zones which also allows to operate the line in with overheated steam. This kind of line allows the highest flexible production of LV and MV rubber and XLPE cables.



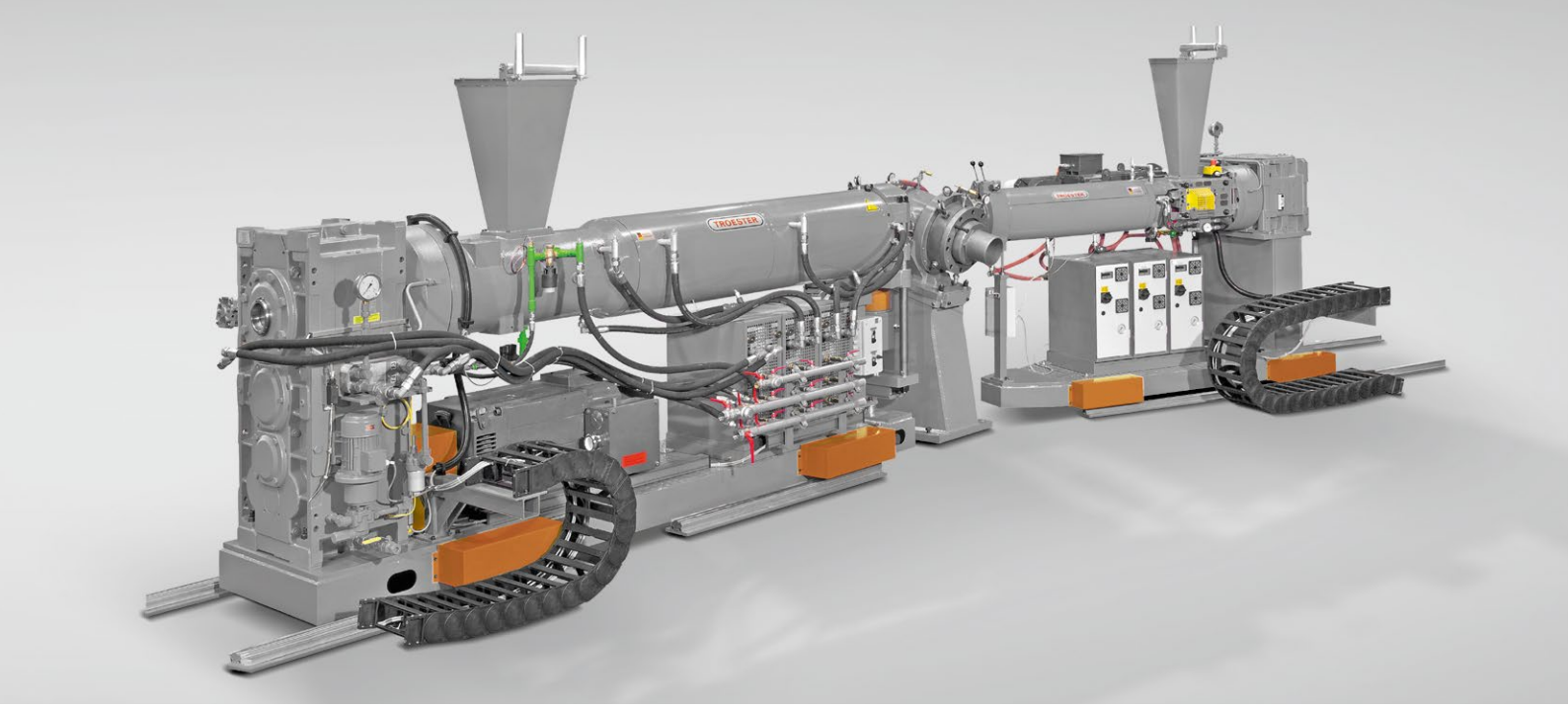
Conductors with small diameters and low wall thicknesses are manufactured in horizontal CV lines. In this case, however, the beginning of the curing section is slightly declined and the CV tube runs out horizontally. For larger weights, the use of a catenary CCV line is required.

In case of limited space availability a turnaround autoclave can be installed to increase the output of the line. To avoid deformations when sheathing sensitive cables, lower steam pressures of 4 -7 bar can be applied. Nevertheless, economic speeds are achievable by using overheated steam.

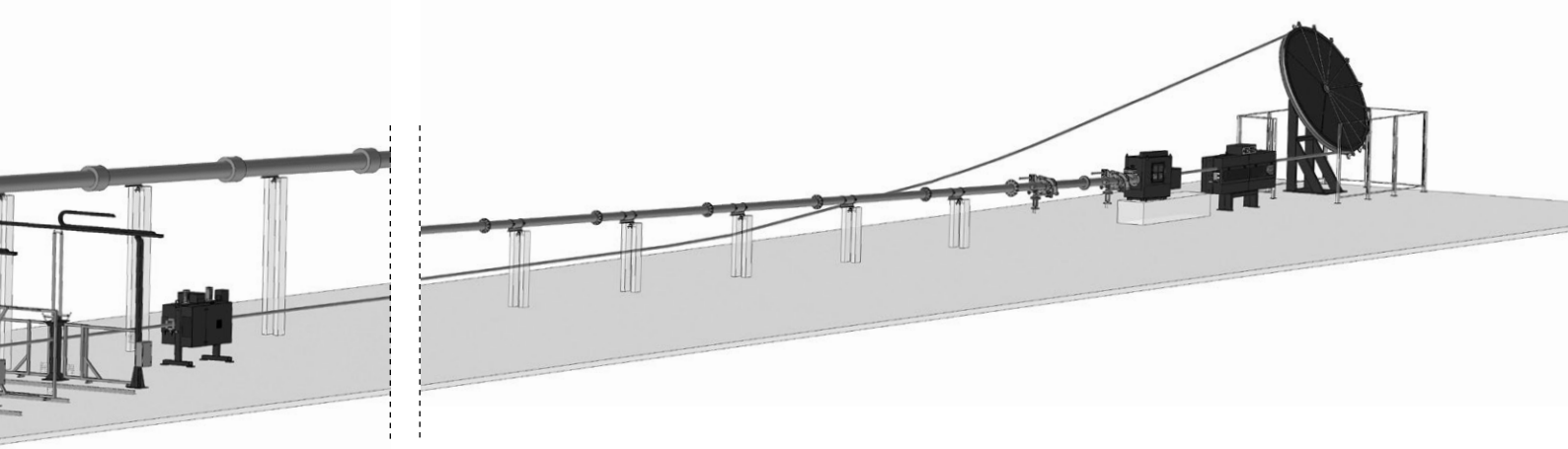
Different rubber material properties required different curing and cooling processes. The application of several water overflows allows the flexible adjustment of the curing/cooling ration to optimally meet the individual requirements and to achieve the best line performances.

Main Advantages of Rubber CV Lines from TROESTER

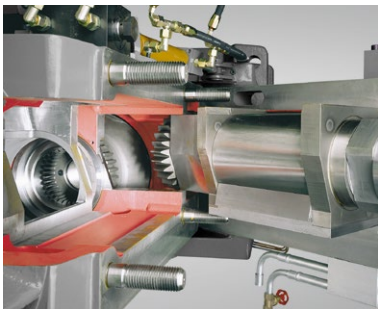
- **Flexible and efficient production over a wide product range**
- **Excellent core tolerances by state-of-the-art extrusion technology**
- **Special designed Rubber Extruders GS**
- **Pin-type Extruder QSM for additional compound mixing**
- **High line speeds due to optimum division of the heating and cooling section**
- **1- and 2-layer rubber insulation and sheathing**
- **Skin and stripe extrusion**
- **Medium Voltage (35 kV) triple extrusion process**
- **Overheated Steam for sensitive products**
- **Innovative line concepts (customized lines fit to special customers requirements)**
- **Combined Rubber- and XLPE-Extrusion lines**
- **Flat-Cable production**
- **State-of-the-art line control**
- **Over 120 years of experience in rubber processing technology**



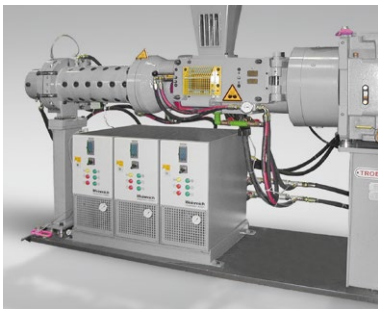
Extruder Group for 2-Layer extrusion



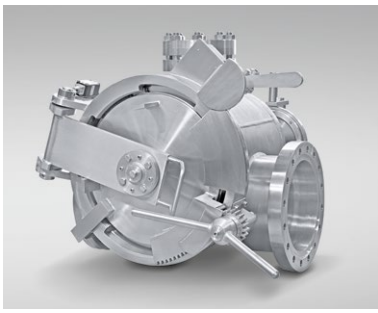
Portal Winder AWB



Feed roll in Hopper section



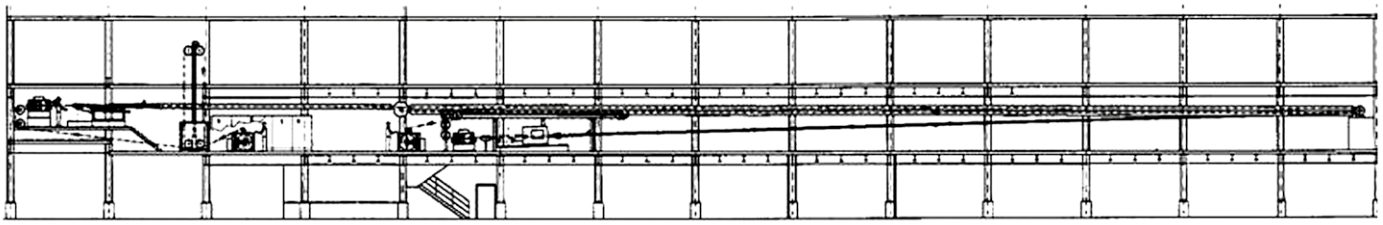
Pin-type Extruder QSM



Embossing Unit

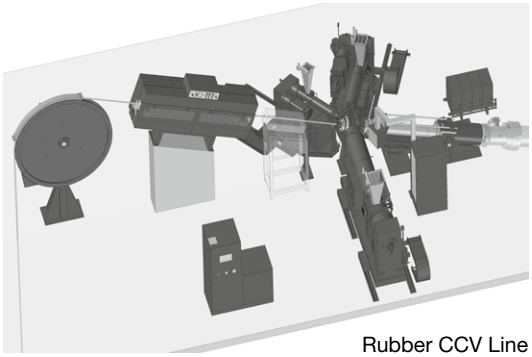
Materials to Process

EPDM	ethylene propilene rubber
NBR	butadiene acrylnitril rubber
CPE	chlorinated polyethylene rubber
CSPE	chlorosulphonated polyethylene
CR	polychloroprene
NR	natural rubber
EVA	ethylene venylacetate rubber
CM	chlorinated polyethylene
SC Rubber	semi-conductive rubber
Silicone rubber	



Horizontal Rubber CV Line
Line Characteristic (Example)

Insulation		
Voltage class	kV	1
Conductor cross section Cu/Al	mm^2	0,75 - 35
Wall thickness	mm	0,5 - 3,6
Cable diameter max.	mm	14,2
Sheathing		
Inlet diameter	mm	5,5 - 17,0
Wall thickness	mm	1,0 - 3,3
Cable outer diameter	mm	8,0 - 23,0
Cable weight max.	kg/m	1,0
Tube length	m	100
Extruder group		60/120



Rubber CCV Line

Catenary Rubber CCV Line
Line Characteristic (Example)

Rubber CCV Line

Insulation		
Voltage class	kV	1 - 35
Conductor cross section Cu/Al	mm^2	25 - 1000
Wall thickness		
Inner semi-conductor	mm	0,5 - 2,0
Insulation	mm	2,5 - 12,0
Outer semi-conductor	mm	0,5 - 2,0
Cable diameter max.	mm	72,0
Sheathing		
Inlet diameter max.	mm	100,0
Wall thickness	mm	2,0 - 12,5
Cable outer diameter	mm	125,0
Flat cables		
Inlet diameter max.	mm	40,0
Cable width before cross head max.	mm	90,0
Total wall thickness	mm	2,0 - 12,5
Cable width after cross head max.	mm	110,0
Cable construction	mm	40,0 x 110,0
Cable weight max.	kg/m	16
Tube length	m	142
Extruder group		60/150/90

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