



TEPE
K I M Y A



**PVC STABILIZER
CATALOGUE 2020**



PVC, Polyvinyl chloride, is the world's most versatile plastic and is widely used in profiles, pipes, cables and other plastic articles. Its versatility is due to the many additives can be used with PVC to customize the end product. PVC can be formulated with the use of additives to be rigid or flexible, opaque or transparent.

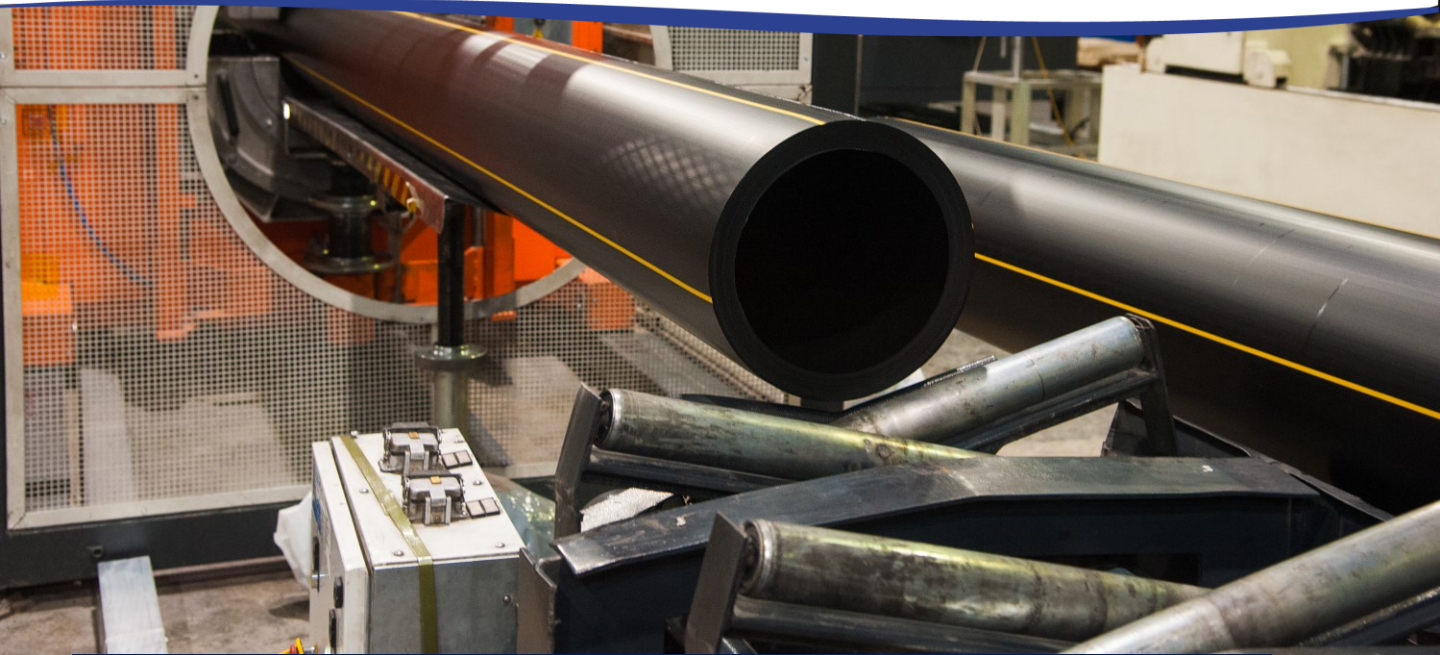
When exposed to heat, PVC degrades to produce HCl (Hydrochloric acid). PVC Stabilizers along with other additives are required to inhibit degradation and allow for smooth processing of PVC. The addition of a stabilizer makes the smooth processing of PVC based products possible.

Tepe Kimya offers one pack, single, lead and Calcium/Zinc based PVC stabilizers to provide solutions to the PVC industry.



PVC Stabilizers for Pipes

Properties/Grade	Stab TP-31S	Stab TP-3184-5	Stab TP-31BK
Application	Sewage Pipe	Sewage Pipe High Pressure pipe Cable canal	High Pressure
Physical form of the product	Flake	Flake	Flake
Lead content (%)	24 ± 2	20 ± 2	28 ± 2
Color	Cream	Cream	Cream
Bulk Density (g/l)	600 ± 30	590 ± 30	650 ± 30
Moisture (%)	1.0	1.0	1.0
Recommended usage (phr)	2-3	2-4	2-3



Recommended formula for PVC pipe production

Conical Twin Screw Extruder

Raw Materials (Per hundred resin, phr)	Sewage pipes (Kg)	Sewage pipes (Kg)	High pressure pipes (Kg)
PVC K-65/67	100	100	100
Calcium Carbonate (CaCO ₃)	150	180	35
PVC Stabilizer	4.8 TP-3184-5	5.25 TP-3184-5	2.5 TP-31BK
Stearic Acid	0.25	0.35	-----
Calcium Stearate (Ca-30)	0.3	0.4	0.2
PE Wax	0.25	0.3	0.15
H-310 (Processing Aid)	0.20	0.3	-----

Parallel Twin Screw Extruder

Raw Materials (Per hundred resin, phr)	Sewage pipes (Kg)	Sewage pipes (Kg)	High pressure pipes (Kg)
PVC K-65/67	100	100	100
Calcium Carbonate (CaCO ₃)	75	80	20
PVC Stabilizer	4 TP-3184-5	4.2 TP-3184-5	2.2 TP-31BK
Stearic Acid	0.25	0.3	0.2
Calcium Stearate (Ca-30)	0.25	0.3	0.15
PE Wax	0.15	0.2	0.15
H-310 (Processing Aid)	0.15	0.15	-----



Stabilizer for PVC Fittings

Properties/Grade	Stab TP-50-3
Application	PVC Fittings
Physical form of the product	Flake
Lead content (%)	42± 2
Color	White
Ash Content (%)	45± 2
Bulk Density (g/l)	600 ± 30
Moisture (%)	1.0 % Max.
Recommended usage (phr)	4-7 phr



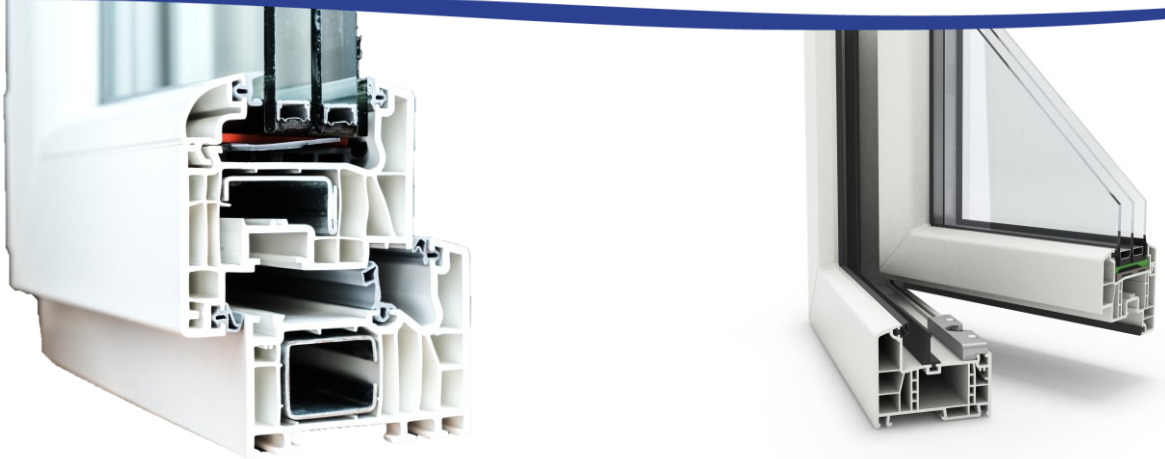
Recommended Formula for PVC Fittings

Raw Materials (Per hundred resin, phr)	Powder Form (Kg)	Granule Form (Kg)
PVC K-58	100	100
Calcium Carbonate (CaCO ₃)	20	30
PVC Stabilizer (Stab TP-50-3)	5.5	6
Stearic Acid	-----	-----
Calcium Stearate (Ca-30)	-----	-----
PE Wax	0.1	0.1
H-310 (Processing Aid)	-----	-----
PY-30 (Impact Modifier)	-----	-----
PA-310 (Acrylic based impact modifier)	0.8	0.9
Titanium Dioxide (Rutile Grade)	0.2	0.2
Carbon Black	0.02	0.02



Stabilizers for PVC Profile

Properties/Grade	Stab TPW-9104	Stab TPW-9110	Stab TP CZ-8105
Application	PVC Profile	PVC Profile	PVC Profile
Physical form of the product	Flake	Flake	Powder
Lead content (%)	42 ± 2	35,0 ± 2	-----
Color	Light Blue	Light Blue	Light Blue
Ash Content (%)	45 ± 2	37,5± 2	18± 2
Bulk Density (g/l)	600 ± 30	570 ± 30	500 ± 30
Moisture (%)	1.5 % Max.	1.5 % Max.	1.5 % Max.
Recommended usage (phr)	4-6	4-6	4-8



Recommended formula for PVC profile

Conical Twin Screw Extruder

Raw Materials (Per hundred resin, phr)	(Kg)
PVC K-67	100
Calcium Carbonate (CaCO ₃)	50
PVC Stabilizer (Stab TPW-9110)	4.5
Stearic Acid	0.3
Calcium Stearate (Ca-30)	-----
PE Wax	0.1
H-310 (Processing Aid)	-----
PY-30 (Impact Modifier)	-----
PA-310 (Acrylic based impact modifier)	5
Titanium Dioxide (Rutile Grade)	5

Parallel Twin Screw Extruder

Raw Materials (Per hundred resin, phr)	(Kg)
PVC K-67	100
Calcium Carbonate (CaCO ₃)	20
PVC Stabilizer (Stab TPW-9110)	4
Stearic Acid	0.3
Calcium Stearate (Ca-30)	-----
PE Wax	0.1
H-310 (Processing Aid)	-----
PY-30 (Impact Modifier)	-----
PA-310 (Acrylic based impact modifier)	5
Titanium Dioxide (Rutile Grade)	5



Recommended formula for PVC Cable Canal

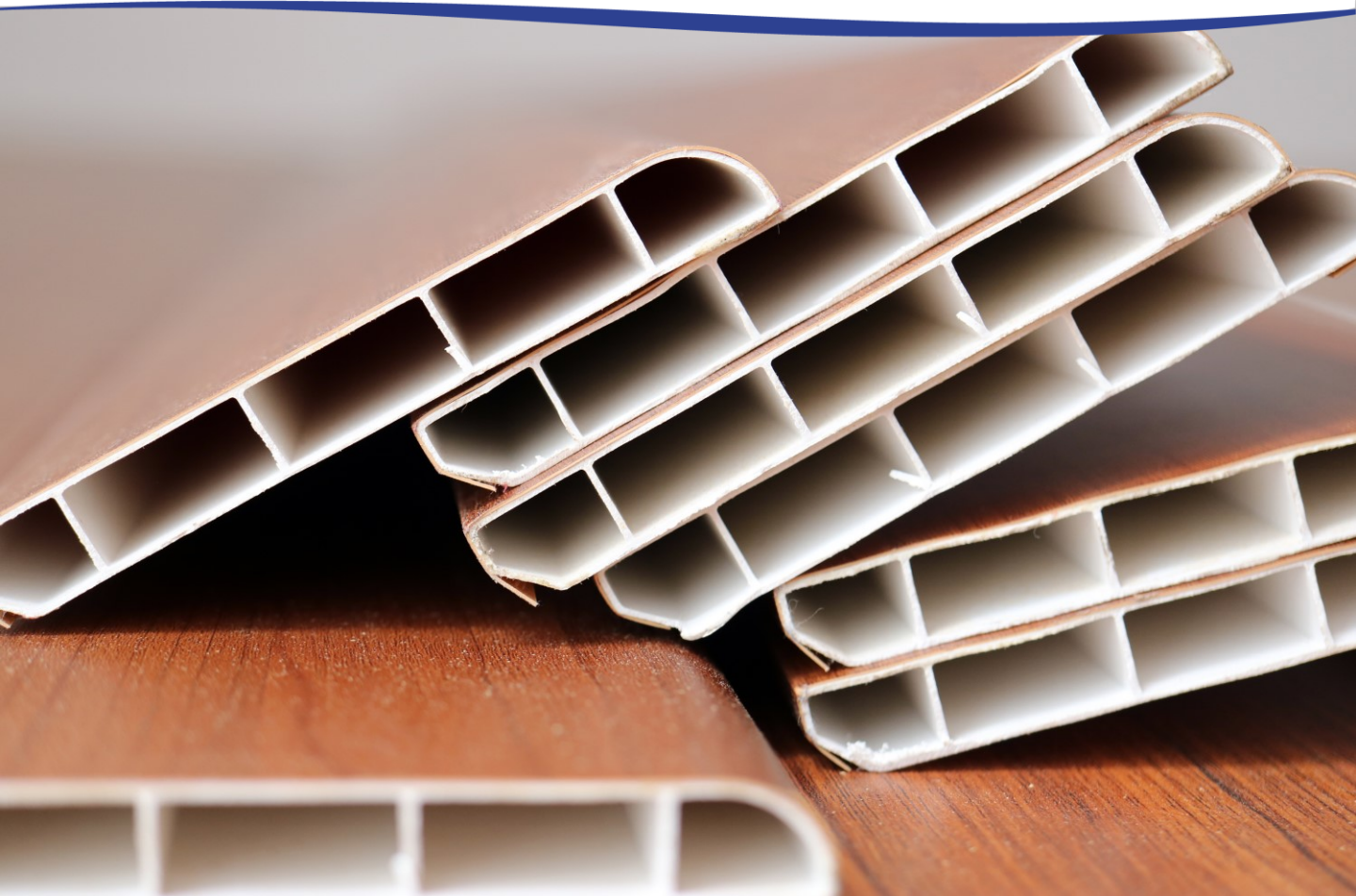
Conical Twin Screw Extruder

Raw Materials (Per hundred resin, phr)	Formula-1 (Kg)	Formula-2 (Kg)	Formula-3 (Kg)
PVC K-67	100	100	100
Calcium Carbonate (CaCO ₃)	100	125	180
PVC Stabilizer (Stab TP-3184-5)	4	4.25	5.25
Stearic Acid	0.3	0.40	0.50
Calcium Stearate (Ca-30)	0.2	0.25	0.35
PE Wax	0.1	0.25	0.35
H-310 (Processing Aid)	----	0.20	0.25
PY-30 (Impact Modifier)	----	1	1.5
PA-310 (Acrylic based impact modifier)	----	----	----
Titanium Dioxide (Rutile Grade)	2.5	3	3.5

Parallel Twin Screw Extruder

Raw Materials (Per hundred resin, phr)	(Kg)
PVC K-67	100
Calcium Carbonate (CaCO ₃)	75
PVC Stabilizer (Stab TP-3184-5)	4
Stearic Acid	0.3
Calcium Stearate (Ca-30)	0.25
PE Wax	0.1
H-310 (Processing Aid)	0.20
PY-30 (Impact Modifier)	----
PA-310 (Acrylic based impact modifier)	----
Titanium Dioxide (Rutile Grade)	----





Stabilizers For PVC Laminate

Properties/Grade	Stab TP-2904	Stab TP-2907	Stab TP-2909
Application	PVC Laminate	PVC Laminate	PVC Laminate
Physical form of the product	Flake	Flake	Flake
Lead content (%)	27± 2	27± 2	20 ± 2
Color	Light grey	Light Grey	White cream
Ash Content (%)	29 ± 2	29± 2	21,5± 2
Bulk Density (g/l)	600 ± 30	600 ± 30	500 ± 30
Moisture (%)	1.0 % Max.	1.0 % Max.	1.0 % Max.
Recommended usage (phr)	4-7	4-7	4-7

Recommended formula for PVC Laminate Production

Conical Twin Screw Extruder

PVC Laminate formula	Formula-1 (Kg)	Formula-2 (Kg)
PVC K-65/67	100	100
Calcium Carbonate (CaCO ₃)	125	180
PVC Stabilizer (Stab TP-2907)	5.2	5.6
Stearic Acid	0.3	0.4
Calcium Stearate (Ca-30)	0.3	0.35
PE Wax	0.25	0.35
H-310 (Processing Aid)	0.2	0.25
PY-30 (Impact Modifier)	1	1.5
PA-310 (Acrylic based impact modifier)	-----	-----
Titanium Dioxide (Rutile Grade)	3.5	4

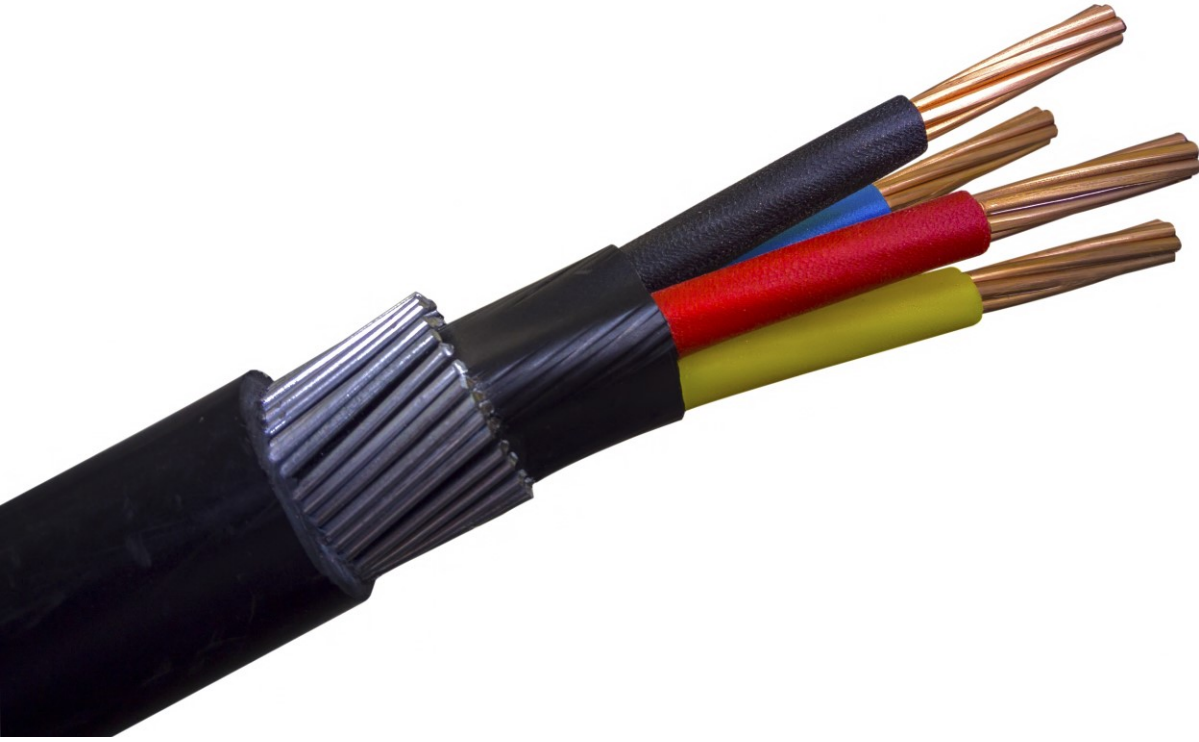
Parallel Twin Screw Extruder

PVC Laminate Formula Raw Materials (Per hundred resin, phr)	Kg
PVC K-65/67	100
Calcium Carbonate (CaCO ₃)	75
PVC Stabilizer (Stab TP-2907)	3.75
Stearic Acid	0.15
Calcium Stearate (Ca-30)	0.20
PE Wax	0.20
H-310 (Processing Aid)	0.30
PY-30 (Impact Modifier)	-----
PA-310 (Acrylic based impact modifier)	-----
Titanium Dioxide (Rutile Grade)	3



Recommended Formula For PVC Wood Composite Production

Formula/ Extruder type	Conical Extruder	Parallel Extruder
PVC Wood composite formula	(Kg)	(Kg)
PVC K-65/67	100	100
Calcium Carbonate (CaCO ₃)	100	60
Micronized wood powder	100	100
PVC Stabilizer (Stab TP-3184-5)	4	3.2
PE Wax	0.4	0.3
PA-310 (Acrylic based impact modifier)	1	0.75
Stearic Acid	0.2	0.2



PVC Stabilizers for Cables

Ca/Zn stabilizers are mainly used for PVC wire and cable applications. One-pack Ca/Zn stabilizers containing calcium/zinc carboxylate, internal-external lubricants, antioxidants and various chemical additives.

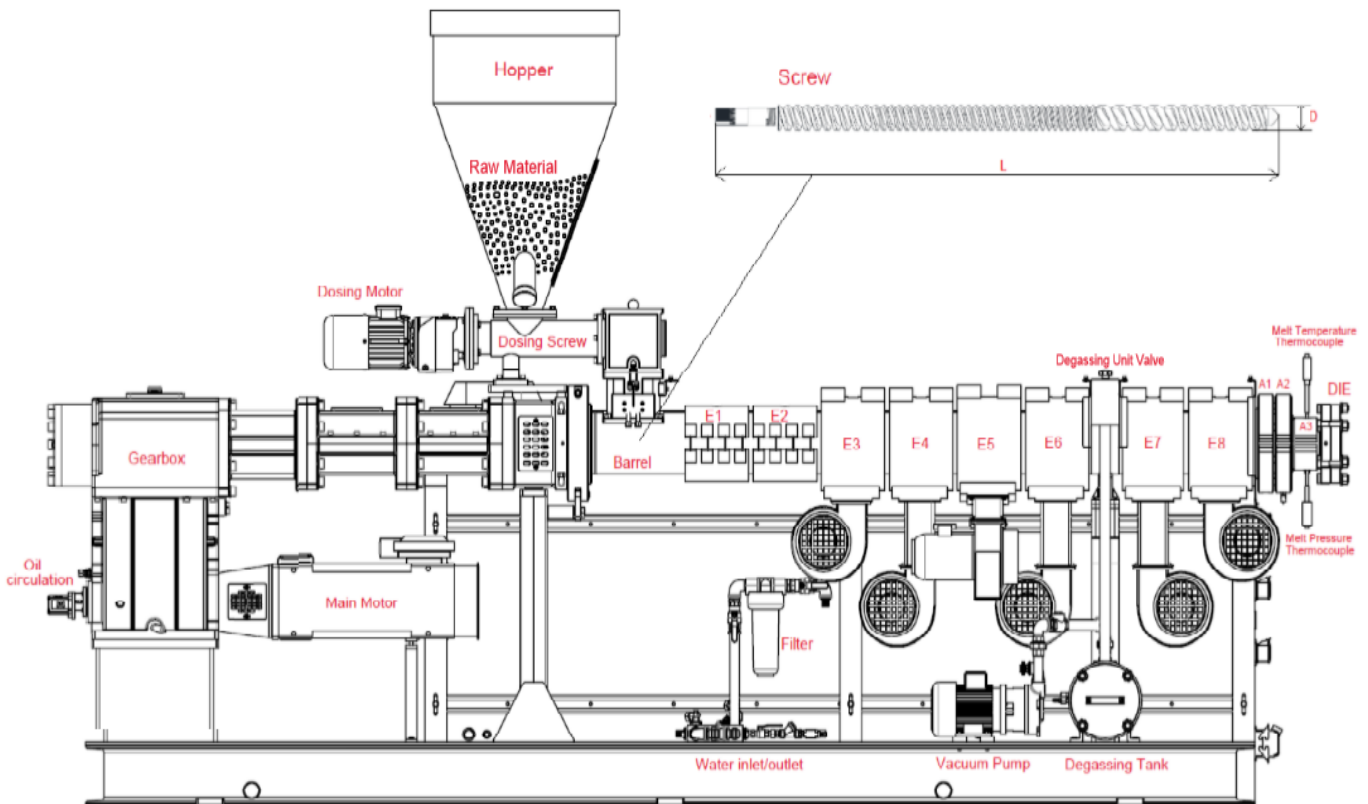
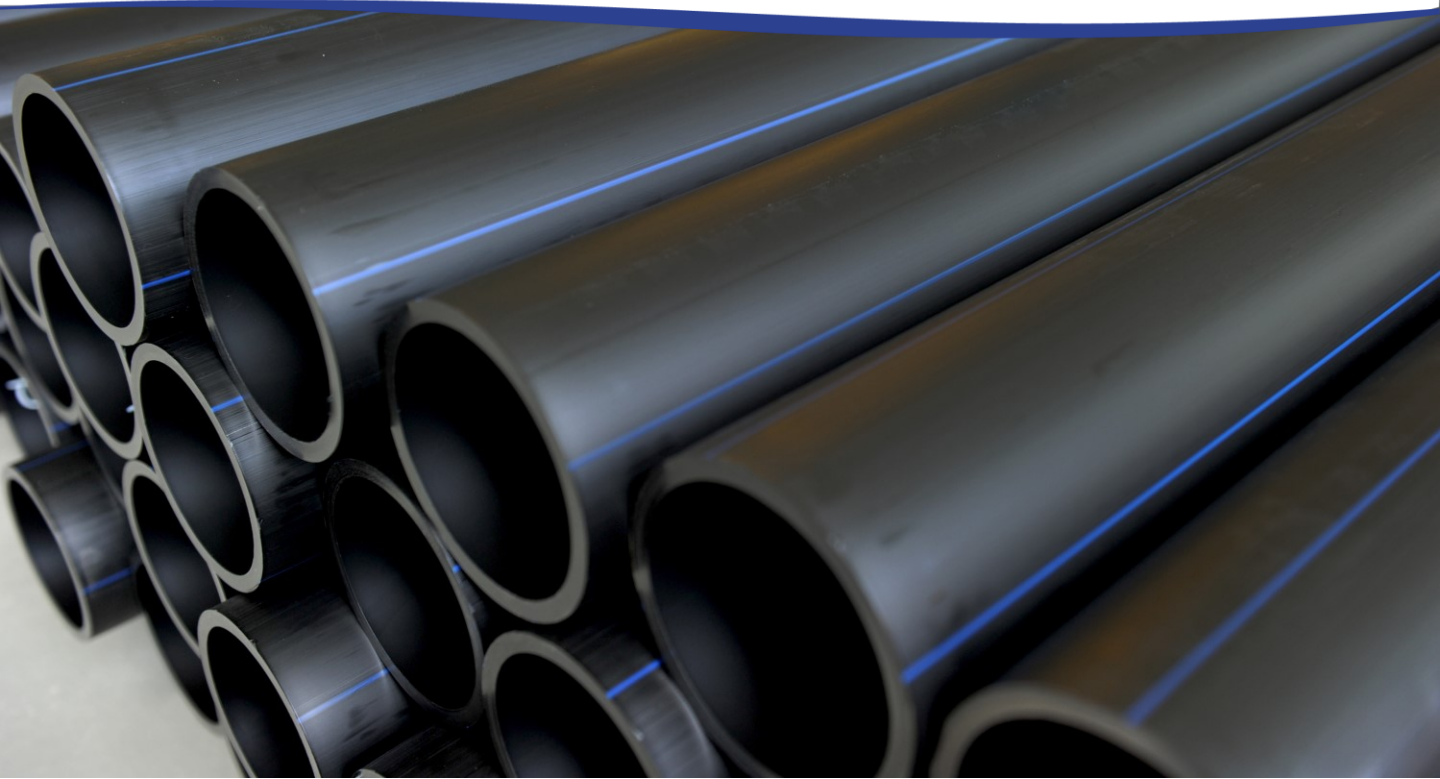
Its excellent processing gives good electrical insulation properties and facilitates fusion with improved liquidity during processing to give a glossy and smooth product. It is a highly efficient product with low water absorption, excellent thermal aging characteristics and good mechanical performance.



Stabilizers for PVC Cables

Properties/Grade	Stab TP CZ 283	Stab TP CZ 281	Stab TP CZ 290	Stab TP CZ 295
Application (°C)	70	90	105	125
Physical form of the product	Powder	Powder	Powder	Powder
Color	White	White	White	White
Ash Content (%)	37,5±2	38,5±2	40±2	41,5±2
Moisture (%) Max.	1.0	1.0	1.0	1.0
Recommended usage (phr)	3-3.5	4-6	8-10	10-14

Formula/Temperature (°C)	70°C (phr)	90°C (phr)	105 °C (phr)	125°C (phr)
PVC (K-70)	100	100	100	100
Plasticizer	50 DOTP	55 DOTP	50 TOTM	50 TOTM
Filler	70-80	60-80	8-10	15-20
Ca/Zn based PVC Stabilizer	3-4	4-6	8-10	10-14





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