

Aryavart Chemicals Pvt. Ltd.



Ca-Zn Stabilizers for PVC Cables

Company Background

- Incorporated in 1974 as a partnership, and in 1984 became a Pvt. Ltd. company
- Started operations at Panvel but shifted to Taloja in 1978
- Shifted facilities for manufacture of Driers to Jalgaon at a fully computerized facility in 2000
- Started production with Paint Driers, diversified to Liquid PVC Stabilizers in 1985.
- Started manufacture of PVC Powder Stabilizers at a state of the art plant at Jalgaon in 1993
- First and only Drier & Stabilizer manufacturer to achieve ISO 9002 in 1997
- Established a new line to manufacture Non Toxic Driers in 2010 and Non Toxic Stabilizers in 2012
- All plant approvals are in place and is a continuously running plant with a full fledged team
- Privately held company with majority (>90%) of the shareholding with the Nair family and related entities

PVC Additives Background

Aryavart Chemicals Pvt. Ltd. (Unit 3)

- Commissioned in the year 1993 at N-96 MIDC Jalgaon
- High capacity of 5000MTpa based on land of 9600 sq. mtrs.
- State of the art plant to manufacture PVC Heat Stabilizers. These are essentially One Pack Stabilizer Formulations based on mixed metal soaps of Stearic Acid
- Established a 1200MTpa line for Ca-Zn stabilizers

The products find applications in the following industries

- PVC Water and Sewage Pipes
- PVC Cables
- Door and Window Profiles
- PVC Conduits and Electrical putties
- Artificial Leather Cloth
- PVC Fittings

Ca-Zn Stabilizers for Cables

- Since 2012, Aryavart has invested a significant amount in establishing a separate line for Ca-Zn Stabilizers, keeping in mind the growing demand world wide for Non Toxic solutions to replace the regular Lead based systems
- This production Line is capable of producing 1200MTpa
- For the Cable Industry we have introduced 2 grades, namely
 - **INSTABEX® CZ-981** for operating temperatures above 70°C
 - **INSTABEX® CZ-990** for operating temperatures above 100°C
- In addition we have also introduced products for
 - Pipes and conduits
 - Profiles
 - Artificial Leather Cloth and Calendaring

INSTABEX® CZ-981

- **INSTABEX® CZ-981** is high power stabilizer in powder form, specifically designed for cable compound for lower grade domestic cables. It imparts good initial color, better heat stability and electrical properties and is suitable for operating temperatures up to 70°C.
- An excellent blend of Stabilizers, Co-Stabilizers and modified new generation lubricants has been so designed to offer the best synergies to meet the requirements of the processor.
- While designing this product, extreme care has been taken to choose all the ingredients to be free from heavy metals to meet ROHS compliance. All batches are certified for heavy metal analysis.

Properties	Test Methods	Specification
Appearance	QA/TMM/026	Off-white Powder
Total metals as Zn (%)	QA/TMM/014	61 ± 2%
Specify Gravity (at 30°C)	QA/TMM/010	1.75 ± 0.1
Moisture Content	QA/TMM/009	3% Max

Performance Tests of INSTABEX® CZ-981

- Comparison Test Carried out between **INSTABEX® CZ-981** and a Standard Product
- Heat Stability Test Conducted at 180°C for 1½ hrs. Results indicate no appreciable change of color and no black particles observed

At 180 Deg.C for 1 hrs 30 min



Standard Sample



CZ - 981

CZ-981....

- Dynamic & Static Tests Carried out on **INSTABEX® CZ-981** on a 2 roll mill
- Heat Stability Test Conducted at 180°C.
- Dynamic Heat Stability achieved is up to 50 minutes while Static Heat Stability achieved is up to 40 minutes. Tests have been carried out at 2phr of stabilizer.

DATE 11.08.13

TEMP. 180 Deg.C +/- 5 Deg.C

FORMULATION

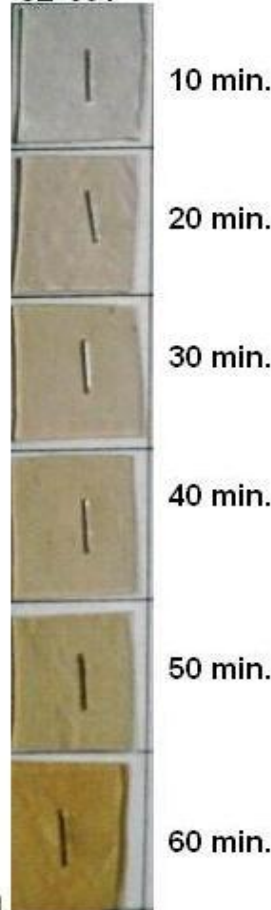
P.V.C. Resin - 100 gm.

Stabilizer - 2 gm.

Stearic Acid - 025 gm.

D.O.P - 25 gm.

DYNAMIC
CZ -981



STATIC
CZ -981



CZ-981....

Parameter	Std. Range	Typical Values
Volume Resistivity (Ω cm)	$1 \cdot 10^{13}$	$5-7 \cdot 10^{13}$
VR drop after 24 hours	Running	Running
Thermal Stability at 200°C	70 minutes min	80-90 minutes
Tensile Strength N/sq.m.	10 min	11-12
After ageing TS	10 min	Running
Elongation Break (%)	100 min	125-150

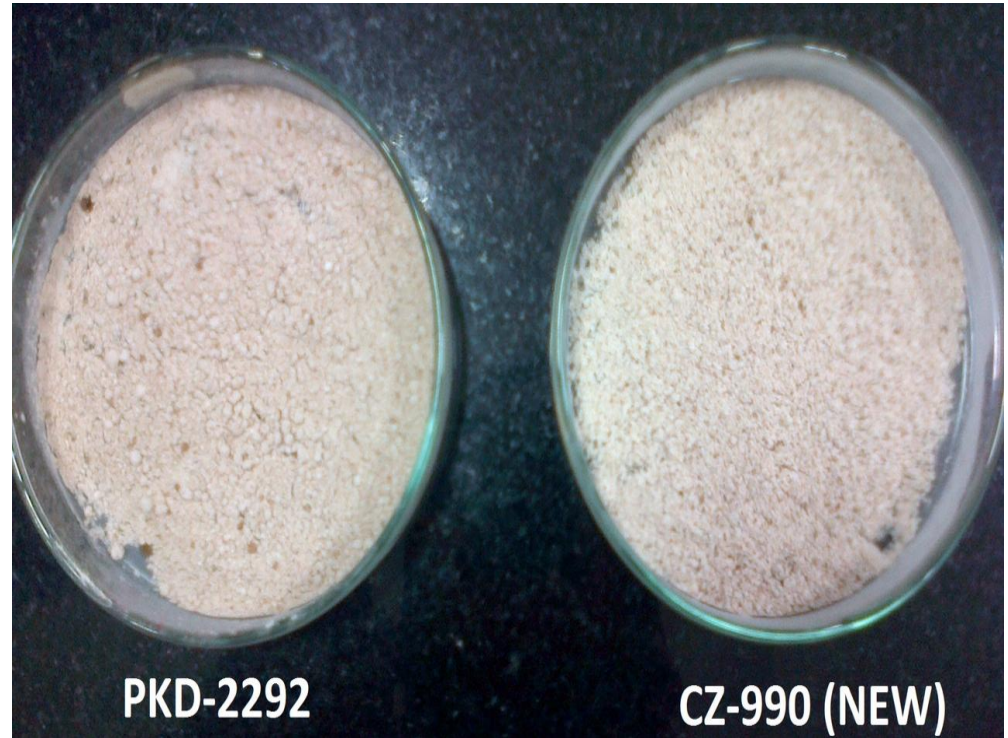
INSTABEX® CZ-990

- **INSTABEX® CZ-990** is high power stabilizer in powder form, specifically designed for cable compound for higher grade domestic cables. It imparts good initial color, better heat stability and electrical properties and is suitable for operating temperatures up to 100°C.
- An excellent blend of Stabilizers, Co-Stabilizers and modified new generation lubricants has been so designed to offer best of the synergies to meet the requirements of the processor.
- While designing this product, extreme care has been taken to choose all the ingredients to be free from heavy metals to meet ROHS compliance. All batches are certified for heavy metal analysis.

Properties	Test Methods	Specification
Appearance	QA/TMM/026	Off-white Powder
Total metals as Zn (%)	QA/TMM/014	59 ± 2%
Specify Gravity (at 30°C)	QA/TMM/010	1.75 ± 0.1
Moisture Content	QA/TMM/009	3% Max

Performance Tests of INSTABEX® CZ-990

- Comparison Test Carried out between **INSTABEX® CZ-990** and a standard product
- Heat Stability Test Conducted at 180°C for 2Hrs. Results indicate no appreciable change of color and no black particles observed



CZ-990....

- Dynamic & Static Tests Carried out on **INSTABEX® CZ-990** on a 2 roll mill
- Heat Stability Test Conducted at 180°C.
- Dynamic Heat Stability achieved is up to 50 minutes while Static Heat Stability achieved is up to 40 minutes. Tests have been carried out at 2phr of stabilizer.

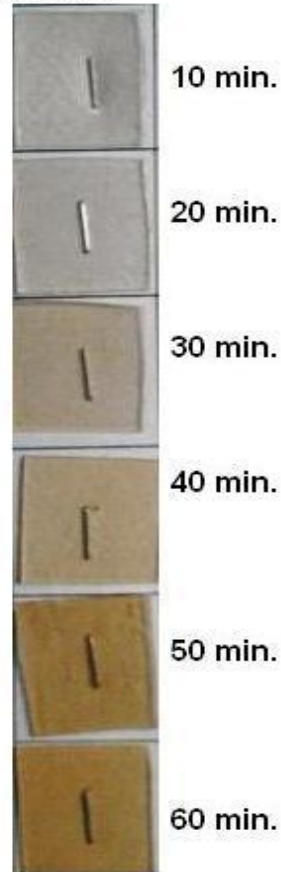
DATE 11.08.13

TEMP. 180 Deg.C +/- 5 Deg.C

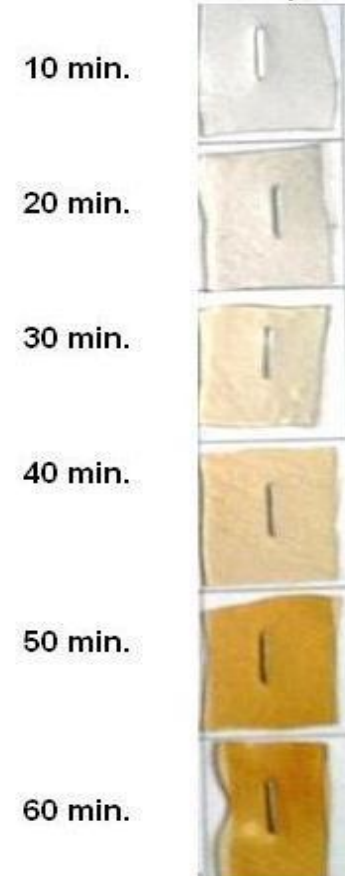
FORMULATION

P.V.C. Resin - 100 gm.
Stabilizer - 2 gm.
Stearic Acid - 025 gm.
D.O.P - 25 gm.

DYNAMIC CZ - 990



STATIC CZ - 990



CZ-990....

Parameter	Std. Range	Typical Values
Volume Resistivity (Ω cm)	1×10^{13}	12-14 $\times 10^{13}$
VR drop after 24 hours	Running	Running
Thermal Stability at 200°C	90 minutes min	110-120 minutes
Tensile Strength N/sq.m.	12.5 min	16-18
After ageing TS	12.5 min	Running
Elongation Break (%)	150 min	200-250

Value Proposition



- Full fledged modern plant with all approvals in place
- In House R&D set up to continuously work on new products, alternative raw materials and cost reduction
- Commercially viable products as evidenced by world wide customer base
- World wide distribution network making the products available at the customers doorstep