POLYPHOSPHATES

Anticorrosives

High Performance Polyphosphates

The technically most sophisticated anticorrosive inhibitors in today´s market

heubach

COMPETENCE IN COLOR

HEUCOPHOS® SAPP Technical Information

PRODUCT DESCRIPTION

a strontium aluminium polyphosphate hydrate

› for application, for example, in 2-part epoxy coating systems. Its electrochemical activity in combination with improved long-term protection offers advantages for high performance applications.

TECHNICAL DATA

Strontium as SrO [%]	23.5 - 30.0	ICP
Phosphorus as P_2O_5 [%]	43.5 - 48.0	ISO 6745
Aluminium as Al_2O_3 [%]	10.5 - 13.5	Complexometric titration
Loss on ignition 600°C [%]	9.5 - 15.0	ISO 6745
Water-soluble chloride [%]	max. 0.025	acc.. to ISO 787, Part 13
Water-soluble sulphate [%]	max. 0.05	acc. to ISO 787, Part 13
Conductivity [µS/cm]	max. 1400	ISO 787, Part 14
pH	4.5 - 6.0	ISO 787, Part 9
Lead as Pb [ppm]	max. 10	ICP
Cadmium as Cd [ppm]	max. 10	ICP
Density [g/cm³]	typ. 2.9	ISO 787, Part 10
Bulk density, untamped [g/cm³]	typ. 0.3	acc. to ISO 787, Part 11
Bulk density, tamped [g/cm³]	typ. 0.7	acc. to ISO 787, Part 11
Oil absorption value [g/100g]	typ. 40	ISO 787, Part 5
Sieve residue 32 microns [%]	max. 0.01	acc. to DIN 53 195
Average particle size [microns]	2.0 - 3.5	Coulter Multisizer II

SOLVENT BASED COATINGS	
Short and medium oil alkyds	
Long oil alkyds	
High solids alkyds	
Epoxies	+++
Epoxyesters	
High solids epoxies	
Polyurethanes	+++
Moisture cured polyurethanes	
Chlorinated polymers	++
Silicone resins	

WATER BASED COATINGS	
Soluble alkyds	
Alkyd emulsions	
Epoxy emulsions	
Epoxy dispersions	+++
1-part polyurethanes	
2-part polyurethanes	+++
Silicone resins	
Acrylics and modified acrylics	
Butadienes	
Hybrids	

SPECIALTY COATINGS	
Coil coatings	+++
Aircraft primers	+++
Wash and shop primers	
Direct to metal one coat	
Baking enamels	
Acidic cured systems	+++

+++ Excellent choice ++ Good choice + Possible choice ■ In addition recommended in combination with HEUCORIN® RZ

HEUCOPHOS® ZCPP Technical Information

PRODUCT DESCRIPTION

a zinc calcium aluminium strontium orthophosphate polyphosphate silicate hydrate

› its excellent protection properties and its compatibility with many binder systems, both water and solvent based, open a broad field of application for this special organically modified active pigment.

TECHNICAL DATA

Zinc as ZnO [%]	36.0 - 39.0	ISO 6745
Phosphorus as P_2O_5 [%]	17.0 - 20.0	ISO 6745
Calcium as CaO [%]	13.0 - 17.0	Complexometric titration
Silicon as SiO_2 [%]	14.0 - 18.0	ISO 3262-17
Strontium as SrO [%]	4.0 - 6.0	ICP
Aluminium as Al_2O_3 [%]	2.0 - 4.0	Complexometric titration
Organic Content [%]	typ. 0.1	
Loss on ignition 600°C [%]	5.5 - 9.5	ISO 6745
Water-soluble chloride [%]	max. 0.025	acc. to ISO 787, Part 13
Water-soluble sulphate [%]	max. 0.05	acc. to ISO 787, Part 13
Conductivity [µS/cm]	max. 150	ISO 787, Part 14
pH	7.0 - 8.0	ISO 787, Part 9
Lead as Pb [ppm]	max. 10	ICP
Cadmium as Cd [ppm]	max. 10	ICP
Density [g/cm³]	typ. 3.2	ISO 787, Part 10
Bulk density, untamped [g/cm³]	typ. 0.3	acc. to ISO 787, Part 11
Bulk density, tamped [g/cm³]	typ. 0.6	acc. to ISO 787, Part 11
Oil absorption value [g/100g]	typ. 40	ISO 787, Part 5
Sieve residue 32 microns [%]	max. 0.01	acc. to DIN 53 195
Average particle size [microns]	2.5 - 3.5	Coulter Multisizer II

SOLVENT BASED COATINGS	
Short and medium oil alkyds	+++
Long oil alkyds	+++
High solids alkyds	++
Epoxies	+++
Epoxyesters	+++
High solids epoxies	++
Polyurethanes	++
Moisture cured polyurethanes	+++
Chlorinated polymers	++
Silicone resins	++

WATER BASED COATINGS	
Soluble alkyds	+++
Alkyd emulsions	+++
Epoxy emulsions	+++
Epoxy dispersions	++
1-part polyurethanes	++
2-part polyurethanes	++
Silicone resins	
Acrylics and modified acrylics	+++
Butadienes	+++
Hybrids	+++

SPECIALTY COATINGS	
Coil coatings	+
Aircraft primers	+
Wash and shop primers	+++
Direct to metal one coat	+
Baking enamels	+
Acidic cured systems	+

+++ Excellent choice ++ Good choice + Possible choice ■ In addition recommended in combination with HEUCORIN® RZ

HEUCOPHOS® ZAPP Technical Information

PRODUCT DESCRIPTION

a zinc aluminium polyphosphate hydrate

› with improved electrochemical activity. HEUCOPHOS® ZAPP is an effective and versatile anticorrosive pigment for many binder systems.

TECHNICAL DATA

Zinc as ZnO [%]	28.0 - 31.0	ISO 6745
Phosphorus as P_2O_5 [%]	46.0 - 49.0	ISO 6745
Aluminium as Al_2O_3 [%]	11.0 - 13.0	Complexometric titration
Loss on ignition 600°C [%]	8.0 - 12.0	ISO 6745
Water-soluble chloride [%]	max. 0.025	acc.. to ISO 787, Part 13
Water-soluble sulphate [%]	max. 0.05	acc. to ISO 787, Part 13
Conductivity [µS/cm]	max. 100	ISO 787, Part 14
pH	5.5 - 6.5	ISO 787, Part 9
Lead as Pb [ppm]	max. 10	ICP
Cadmium as Cd [ppm]	max. 10	ICP
Density [g/cm³]	typ. 3.1	ISO 787, Part 10
Bulk density, untamped [g/cm³]	typ. 0.3	acc. to ISO 787, Part 11
Bulk density, tamped [g/cm³]	typ. 0.6	acc. to ISO 787, Part 11
Oil absorption value [g/100g]	typ. 35	ISO 787, Part 5
Sieve residue 32 microns [%]	max. 0.01	acc. to DIN 53 195
Average particle size [microns]	2.0 - 3.5	Coulter Multisizer II

SOLVENT BASED COATINGS	
Short and medium oil alkyds	++
Long oil alkyds	++
High solids alkyds	
Epoxies	+
Epoxyesters	
High solids epoxies	
Polyurethanes	+++
Moisture cured polyurethanes	
Chlorinated polymers	++
Silicone resins	

WATER BASED COATINGS	
Soluble alkyds	++
Alkyd emulsions	++
Epoxy emulsions	++
Epoxy dispersions	++
1-part polyurethanes	
2-part polyurethanes	+++
Silicone resins	+++
Acrylics and modified acrylics	
Butadienes	
Hybrids	++

SPECIALTY COATINGS	
Coil coatings	+
Aircraft primers	
Wash and shop primers	++
Direct to metal one coat	
Baking enamels	
Acidic cured systems	+++

+++ Excellent choice ++ Good choice + Possible choice ■ In addition recommended in combination with HEUCORIN® RZ

High Performance Polyphosphates

ZAPP	ZCPP	SOLVENT BASED COATINGS	SAPP	SRPP	CAPP
++	+++	Short and medium oil alkyds			+++
++	+++	Long oil alkyds			+++
	++	High solids alkyds			
+	+++	Epoxies	+++	++	
	+++	Epoxyesters			
	++	High solids epoxies			
+++	++	Polyurethanes	+++	++	++
	+++	Moisture cured polyurethanes			+
++	++	Chlorinated polymers	++	+	++
	++	Silicone resins			

		WATER BASED COATINGS			
++	+++	Soluble alkyds			++
++	+++	Alkyd emulsions			++
++	+++	Epoxy emulsions			+
++	++	Epoxy dispersions	+++	++	+++
	++	1-part polyurethanes			+
+++	++	2-part polyurethanes	+++	++	++
+++		Silicone resins			+
	+++	Acrylics and modified acrylics			++
	+++	Butadienes			+
++	+++	Hybrids			++

		SPECIALTY COATINGS			
+	+	Coil coatings	+++	+++	
	+	Aircraft primers	+++	+++	
++	+++	Wash and shop primers			
	+	Direct to metal one coat			+
	+	Baking enamels			
+++	+	Acidic cured systems	+++	+++	+++

+++ Excellent choice ++ Good choice + Possible choice ■ In addition recommended in combination with HEUCORIN® RZ

HEUCOPHOS® CAPP Technical Information

PRODUCT DESCRIPTION

a calcium aluminium polyphosphate silicate hydrate

› HEUCOPHOS® CAPP provides very good results in water based 2-part epoxy resins and coating systems based on dispersions. HEUCOPHOS® CAPP is suitable for the application in high performance acidic cured systems.

TECHNICAL DATA

Calcium as CaO [%]	26.5 - 29.5	Complexometric titration
Phosphorus as P_2O_5 [%]	24.5 - 27.5	ISO 6745
Aluminium as Al_2O_3 [%]	6.0 - 8.0	Complexometric titration
Silicon as SiO_2 [%]	28.5 - 31.5	ISO 3262-17
Loss on ignition 600°C [%]	6.0 - 9.0	ISO 6745
Water-soluble chloride [%]	max. 0.025	acc.. to ISO 787, Part 13
Water-soluble sulphate [%]	max. 0.05	acc. to ISO 787, Part 13
Conductivity [µS/cm]	max. 150	ISO 787, Part 14
pH	6.0 - 9.0	ISO 787, Part 9
Lead as Pb [ppm]	max. 10	ICP
Cadmium as Cd [ppm]	max. 10	ICP
Density [g/cm³]	typ. 2.7	ISO 787, Part 10
Bulk density, untamped [g/cm³]	typ. 0.3	acc. to ISO 787, Part 11
Bulk density, tamped [g/cm³]	typ. 0.7	acc. to ISO 787, Part 11
Oil absorption value [g/100g]	typ. 35	ISO 787, Part 5
Sieve residue 32 microns [%]	max. 0.01	acc. to DIN 53 195
Average particle size [microns]	2.5 - 4.0	Coulter Multisizer II

SOLVENT BASED COATINGS	
Short and medium oil alkyds	+++
Long oil alkyds	+++
High solids alkyds	
Epoxies	
Epoxyesters	
High solids epoxies	
Polyurethanes	++
Moisture cured polyurethanes	+
Chlorinated polymers	++
Silicone resins	

WATER BASED COATINGS	
Soluble alkyds	++
Alkyd emulsions	++
Epoxy emulsions	+
Epoxy dispersions	+++
1-part polyurethanes	+
2-part polyurethanes	++
Silicone resins	+
Acrylics and modified acrylics	++
Butadienes	+
Hybrids	++

SPECIALTY COATINGS	
Coil coatings	
Aircraft primers	
Wash and shop primers	
Direct to metal one coat	+
Baking enamels	
Acidic cured systems	+++

+++ Excellent choice ++ Good choice + Possible choice ■ In addition recommended in combination with HEUCORIN® RZ

HEUCOPHOS® SRPP Technical Information

PRODUCT DESCRIPTION

a controlled adjusted modified strontium aluminium polyphosphate hydrate

› HEUCOPHOS® SRPP is a special adjustment of HEUCOPHOS® SAPP for the application mainly in Coil Coatings and Aircraft Primers.

TECHNICAL DATA

Strontium as SrO [%]	23.5 - 30.0	ICP
Phosphorus as P_2O_5 [%]	43.5 - 48.0	ISO 6745
Aluminium as Al_2O_3 [%]	10.5 - 13.5	Complexometric titration
Loss on ignition 600°C [%]	9.5 - 15.0	ISO 6745
Water-soluble chloride [%]	max. 0.025	acc.. to ISO 787, Part 13
Water-soluble sulphate [%]	max. 0.05	acc. to ISO 787, Part 13
Conductivity [µS/cm]	max. 1500	ISO 787, Part 14
pH	4.5 - 6.0	ISO 787, Part 9
Lead as Pb [ppm]	max. 10	ICP
Cadmium as Cd [ppm]	max. 10	ICP
Density [g/cm³]	typ. 2.9	ISO 787, Part 10
Bulk density, untamped [g/cm³]	typ. 0.4	acc. to ISO 787, Part 11
Bulk density, tamped [g/cm³]	typ. 0.7	acc. to ISO 787, Part 11
Oil absorption value [g/100g]	typ. 40	ISO 787, Part 5
Sieve residue 32 microns [%]	max. 0.01	acc. to DIN 53 195
Average particle size [microns]	2.0 - 3.5	Coulter Multisizer II

SOLVENT BASED COATINGS	
Short and medium oil alkyds	
Long oil alkyds	
High solids alkyds	
Epoxies	++
Epoxyesters	
High solids epoxies	
Polyurethanes	++
Moisture cured polyurethanes	
Chlorinated polymers	+
Silicone resins	

WATER BASED COATINGS	
Soluble alkyds	
Alkyd emulsions	
Epoxy emulsions	
Epoxy dispersions	++
1-part polyurethanes	
2-part polyurethanes	++
Silicone resins	
Acrylics and modified acrylics	
Butadienes	
Hybrids	

SPECIALTY COATINGS	
Coil coatings	+++
Aircraft primers	+++
Wash and shop primers	
Direct to metal one coat	
Baking enamels	
Acidic cured systems	+++

+++ Excellent choice ++ Good choice + Possible choice ■ In addition recommended in combination with HEUCORIN® RZ

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