



TEKsperse S4

High molecular weight polymeric dispersant with cationic functionality

Description:

TEKsperse S4 is a high molecular weight of poly-acid type polymer dispersion agent designed as wetting and dispersing agent for solvent base coating. TEKsperse S4 prevents re-flocculation of pigments through steric hindrance and therefore stabilizes the color strength and hue of pigments in paints and pigment concentrates system. Its high concentration of pigment affinic groups improves the wetting and dispersing even at a low dosage. TEKsperse S4 designed to disperse difficult organic pigment especially high color carbon black. The dispersion agent also can be used for other colors such as red, blue, green, and yellow.

Physical constant:

Appearance	Clear to slightly haze yellow liquid
Percent active, %	14-16
Solvents	Blend of hydro-carbon and glycols

Application:

TEKsperse S4 can be used in all types of solvent base coatings such as automotive base coat (OEM and refinish), high performance industrial coatings, and coil coatings. TEKsperse S4 is compatible to difference resin chemistries particularly acrylic, polyester, and alkyd (long, medium, and short chain).

Recommend Dosage:

High color carbon black (T area >250 m ² /gram)	15-30% active on carbon black
Medium color carbon black (T area = 200-250 m ² /gram)	5-20% active on carbon black
Regular color carbon black (T area < 200 m ² /gram)	3-5% active on carbon black
Other colors pigment	10-20% active on pigment
Inorganic pigment	5-10% active on pigment

Incorporation:

TEKsperse S4 can be incorporated in the mill base before or after addition of pigment.

US: Chem-Teks
Lowell, MA 01851
TEL: 978-689-5017

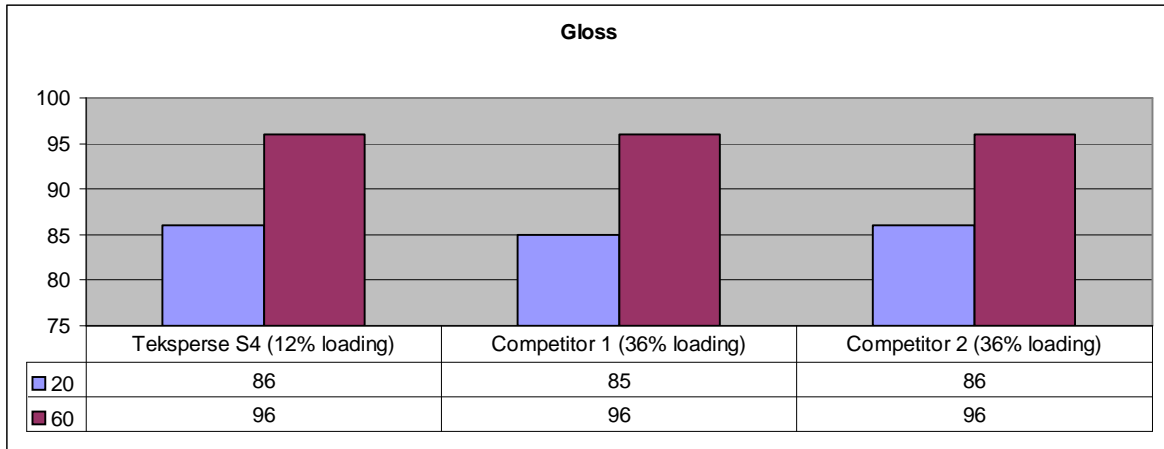
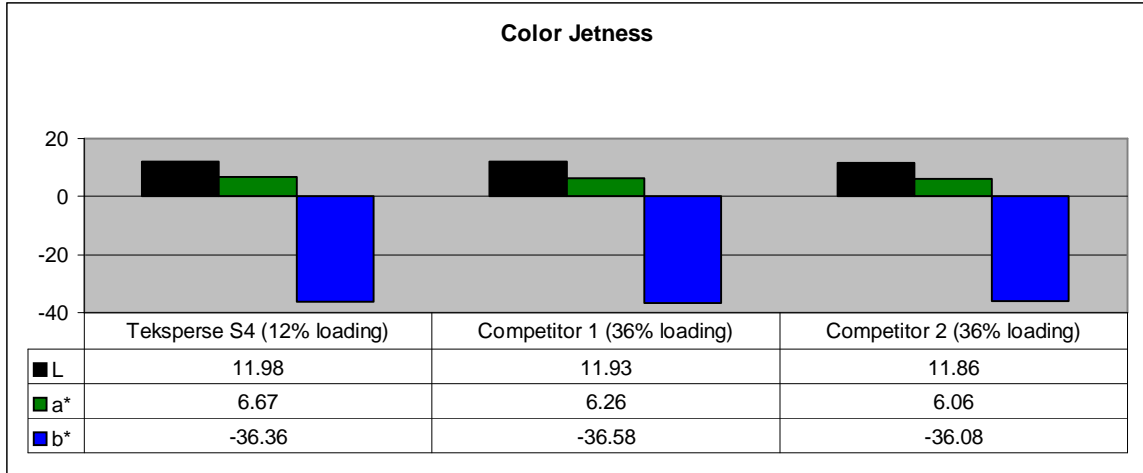
Asia: Sun Neutral (M) Sdn Bhd,
24-A-5, 4th floor, Jalan SS6/3, Kelana Jaya
47301 Petaling Jaya
Selangor, Malaysia
TEL: +603-78049508, FAX: +603-78800618

FORMULATION STUDY:

Short Chain Alkyd (Blue Color Pigment)

MILLBASE:			
Beckosol 12-054	25	25	25
Xylene	12.75	11.0	10.5
Dispersion agent	4.0	4.0	4.5
Grade	TEKSPERSE S4	COMPETITOR 1	COMPETITOR 2
Blue	5	5	5
Premix the above at 3,000RPM for 10 minutes, then run in skandex for 4 hours			
Media	Zirconium Oxide	Zirconium Oxide	Zirconium Oxide
Media size, mm	1.6-2.0	1.6-2.0	1.6-2.0
Millbase constants:			
Total solids, %	40.2	42.9	42.9
Pigment loading, %	11	11	11
Dispersant/Pigment, active %	12	36	36
LETDOWN MASTERBATCH:			
Beckosol 12-054	410	410	410
Cymel 325	28.5	28.5	28.5
Premix the letdown masterbatch under good agitation for 30 minutes Finish formulation is as following			
Finish Formulation:			
Letdown masterbatch	122.5	122.5	122.5
Millbase	20	20	20
Formulation constants:			
Total solids, %	45.6	46.20	46.20
Pigment loading, solids, %	3.2	3.2	3.2
Premix the finish formulation under good agitation for another 20 minutes Adjust viscosity with aromatic 100 to 25-30 seconds # 4 Ford cup for spray application			
Performance Properties:			
Base coat			
DFT, microns	28-32	28-32	28-32
Flash off, RT, minutes	5	5	5
Flash off base coat, 140°C	20 minutes	20 minutes	20 minutes

PERFORMANCE COMPARISION (Short Chain Alkyd):



FORMULATION STUDY:

Short Chain Alkyd (Red Color Pigment)

MILLBASE:			
Beckosol 12-054	25	25	25
Xylene	12.75	11.0	10.5
Dispersion agent	4.0	4.0	4.5
Grade	TEKSPERSE S4	COMPETITOR 1	COMPETITOR 2
Red	5	5	5
Premix the above at 3,000RPM for 10 minutes, then run in skandex for 4 hours			
Media	Zirconium Oxide	Zirconium Oxide	Zirconium Oxide
Media size, mm	1.6-2.0	1.6-2.0	1.6-2.0
Millbase constants:			
Total solids, %	40.2	42.9	42.9
Pigment loading, %	11	11	11
Dispersant/Pigment, active %	12	36	36
LETDOWN MASTERBATCH:			
Beckosol 12-054	410	410	410
Cymel 325	28.5	28.5	28.5
Premix the letdown masterbatch under good agitation for 30 minutes Finish formulation is as following			
Finish Formulation:			
Letdown masterbatch	122.5	122.5	122.5
Millbase	20	20	20
Formulation constants:			
Total solids, %	45.6	46.20	46.20
Pigment loading, solids, %	3.2	3.2	3.2
Premix the finish formulation under good agitation for another 20 minutes Adjust viscosity with aromatic 100 to 25-30 seconds # 4 Ford cup for spray application			
Performance Properties:			
Base coat			
DFT, microns	28-32	28-32	28-32
Flash off, RT, minutes	5	5	5
Flash off base coat, 140°C	20 minutes	20 minutes	20 minutes

PERFORMANCE COMPARISION (Short Chain Alkyd):

