



FVC-E50(Viscocare-EG50F)

Thickener with Emulsification and Stabilization power

Product Description



FVC-E50(Viscocare-EG50F)

INCI/CTFA Name	Sodium acrylate/Sodium acryloyldimethyl taurate copolymer & Isohexadecane & Polysorbate 80
Appearance	Fluid Emulsion
Solid Content	44~48% Min.
pH @ 2% aqueous	5.0~7.0
Viscosity @2 % aqueous	55,000 ~ 80,000 mPas
Shelf life	36 Month
Recommended usage	0.5~3%
China regulatory	Listed in IECIC, NMPA registered



Product Line-up



	No Oil	No Oil	C13~14 Isoparaffin (Light)	Isohexadecane (Light)	Polyisobutene (Light)	Hydrogenated Polydecene (Smooth)	Squalane (Smooth)
Acrylate (Fresh)	FVC-90 (Viscocare-HA50F)	Coming up E.O. Free FVC-90		FVC-E50 (Viscocare-EG50F)	Coming up E.O. Free FVC-E50		Coming up Mineral Oil Free FVC-N40
AMPS (Soft)							
Polyacrylate-13 (Rich)						FVC-400 (Viscocare-P400F)	
Acrylamide (Rich)			FVC-P50 (Viscocare-PA50F)				

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 - Per pH Effect
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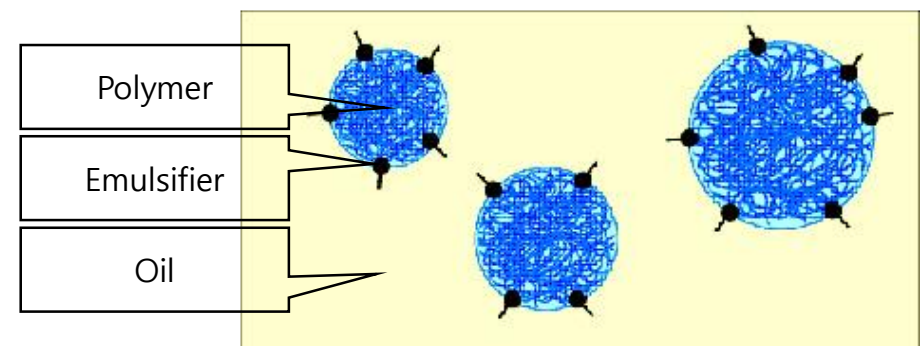
Product Features

- Emulsion type thickener that does not require neutralization, is easy to disperse, and can self phase inversion-able.
- Excellent resistance to electrolytes, capable of forming viscosity under a wide range of pH (3–12).
- Excellent thickener, stabilizer, emulsifier at low usage
- Emulsification capacity for a variety of oils
- Stable structure provides excellent thickening effects in DHA, AHA, H₂O₂, Solvent, etc
- It is possible to form a formulation that is easy to pick-up with a smooth use.
- Residual solvent free (Benzene, n-butanol, Ethyl Acetate, Butyl Acetate)

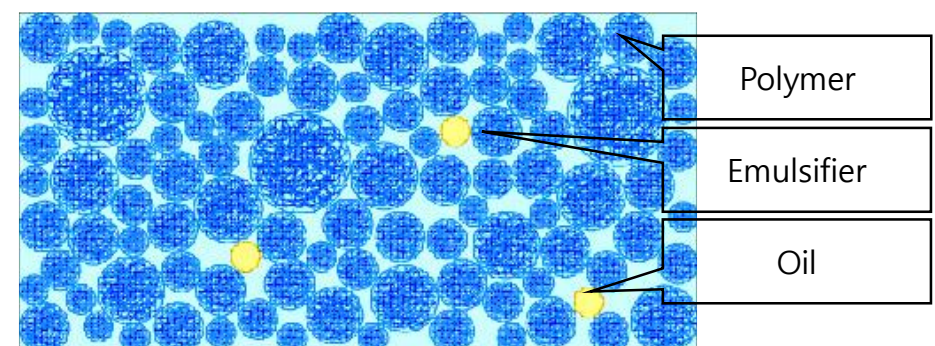
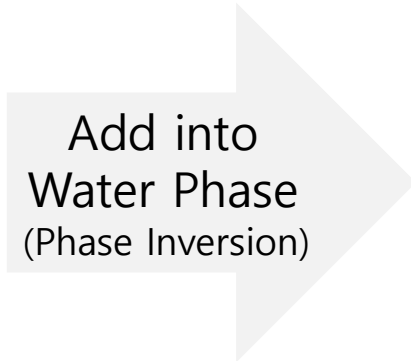


Self Phase Inversion-able Emulsion Thickener

- Convenient to use compared to traditional thickener
- A thickener in the form of a W/O emulsion that does not require neutralization and is easy to disperse in water
- Easy to store in humid places.
- Residual solvent free



W/O Emulsion
FVC-E50(Viscocare-EG50F)



O/W Emulsion
Water + FVC-E50(Viscocare-EG50F)

Emulsification Power

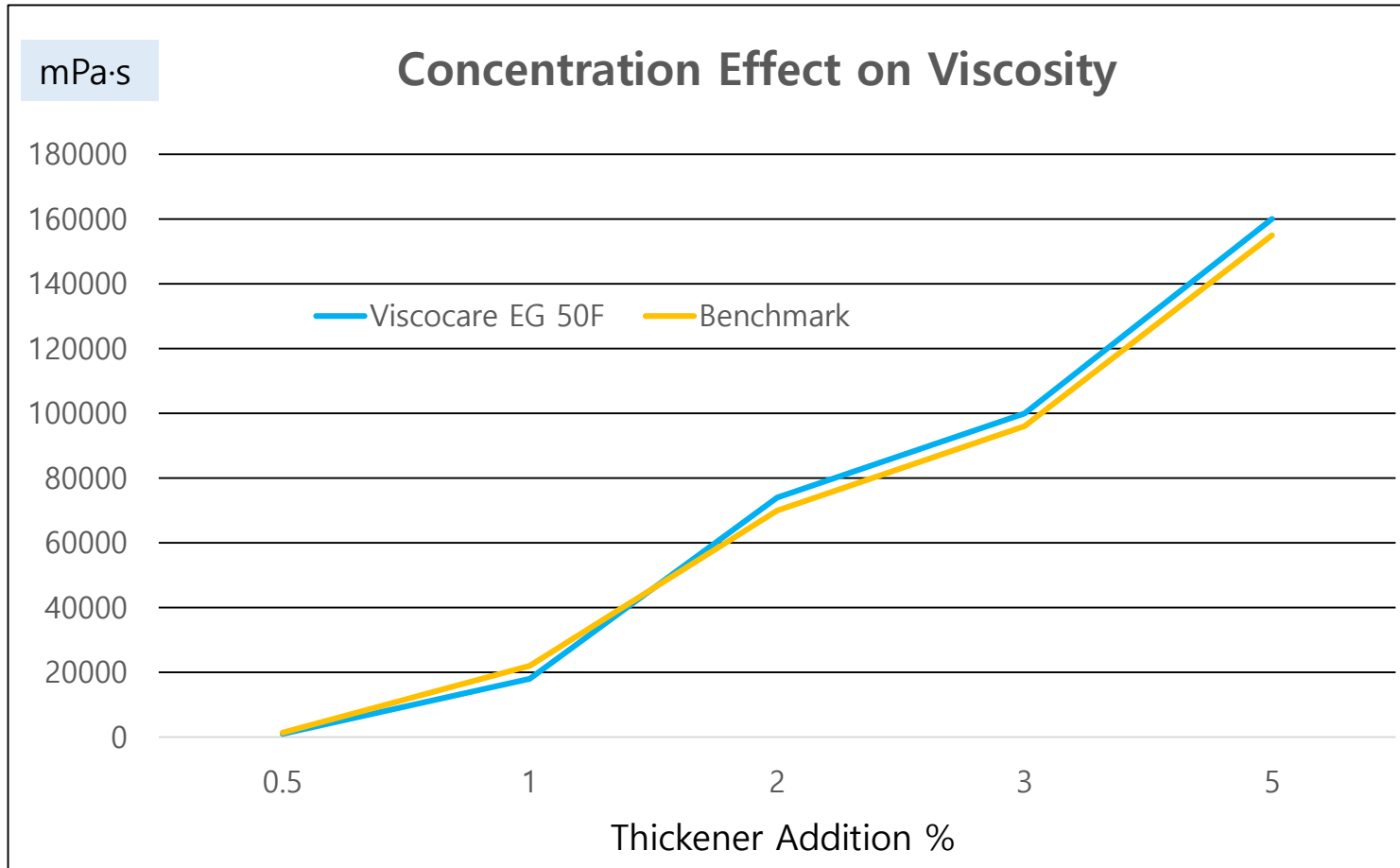


Oil	Formula			Stability at 40°C	Stability at 50°C
	FVC-E50(%)	Oil	Water		
Isohexadecane	3	10	87	> 1 year	> 1 month
Liquid paraffin	3	10	87	> 1 year	> 1 month
Squalane	3	10	87	> 1 year	> 1 month
Caprylic/Capric triglyceride	3	10	87	> 1 year	> 1 month
C12-15 Alkyl benzoate	3	10	87	> 1 year	> 1 month
Isononyl isononanoate	3	10	87	> 1 year	> 1 month
Jojoba oil	3	10	87	> 1 year	> 1 month
Dimethicone	3	10	87	> 1 year	> 1 month
Cyclomethicone	3	10	87	> 1 year	> 1 month

FVC-E50(Viscocare-EG50F) emulsifies all types of oil and stabilizes regardless of the viscosity and pH of the final emulsion. No heating, emulsifier addition and HLB adjustment required in the test, only stirring was used



Thickening Capability per Concentration Change



- **Objectives**

- Measure the viscosity at various concentrations and compare it to a benchmark

- **Methods**

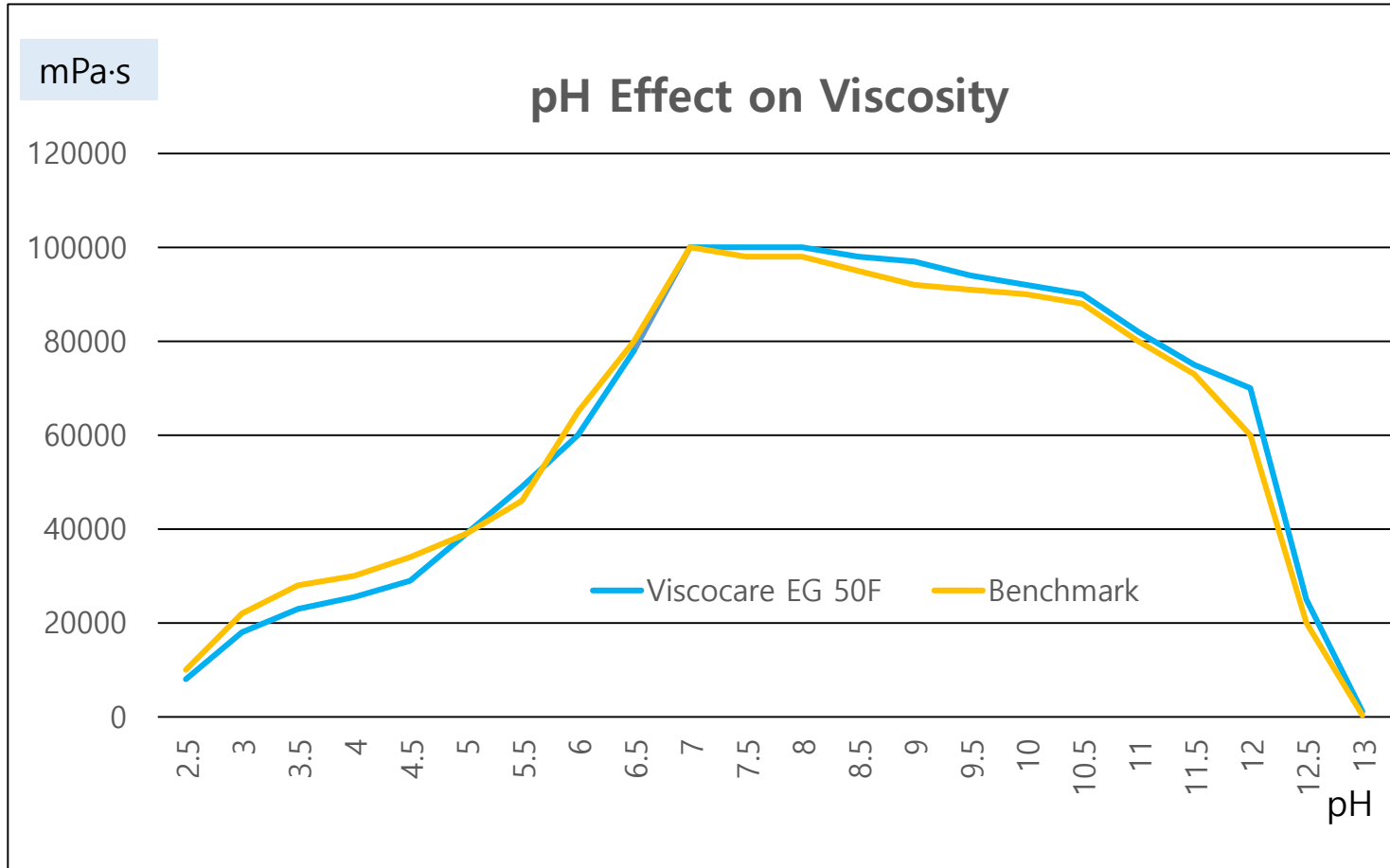
- Prepare solution of 0.5 – 5.0 % of FVC-E50(Viscocare EG50F).
- Using automatic agitation in low concentration
- In high concentration, using manual agitation
- RVT Viscometer

- **Result**

- The viscosity profile of FVC-E50(Viscocare EG50F) at various concentrations is very similar to the benchmark one



Thickening capability over a wide pH range



➤ Objectives

- How much it can increase viscosity in pH conditions from acid to base. It also compares with benchmark.

➤ Methods

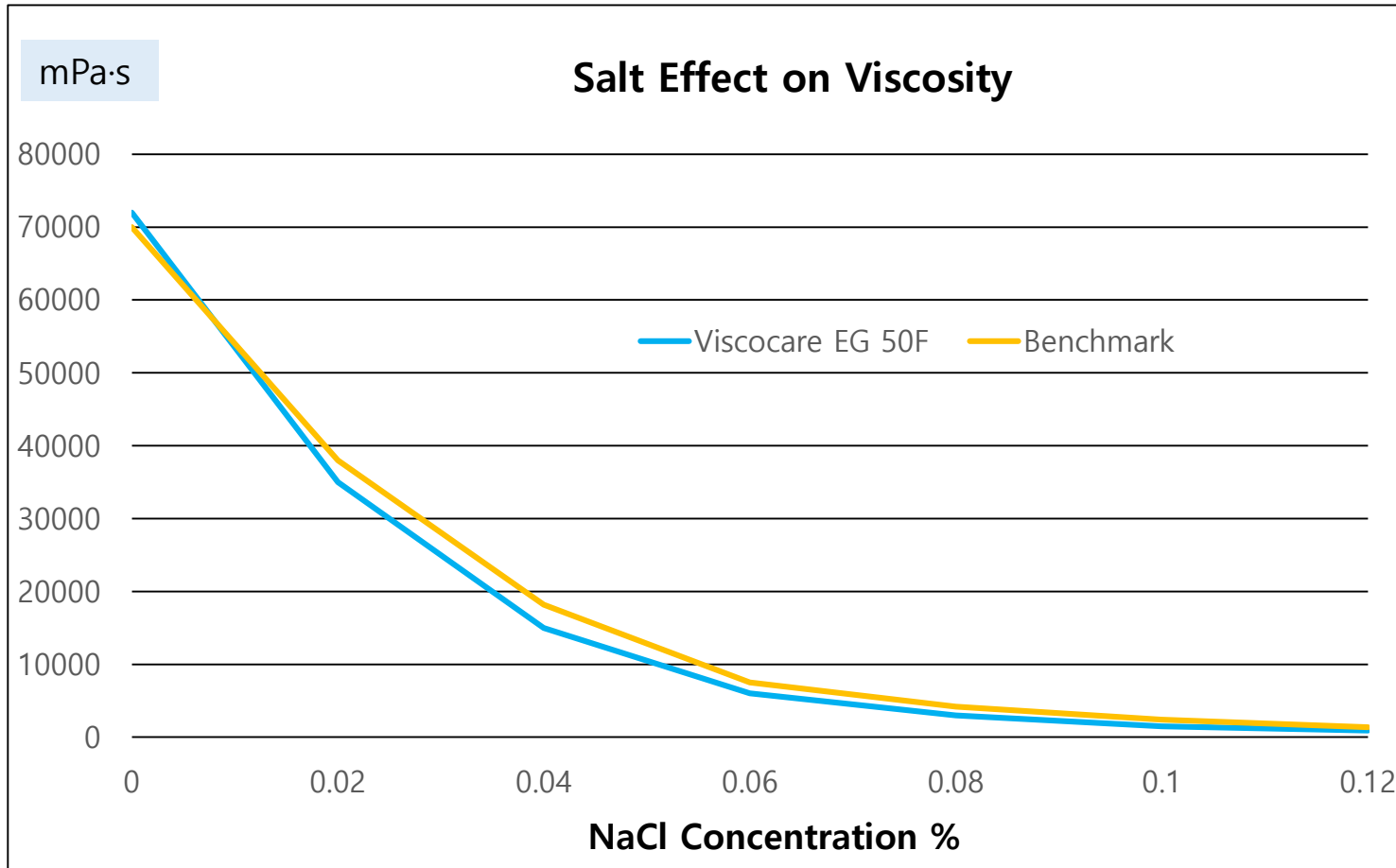
- Prepare 3% FVC-E50(Viscoscare-EG50F) & benchmark in DI Water, respectively.
- Add Lactic acid or 10% NaOH solution to make a designed pH in 3% FVC-E50(Viscoscare-EG50F) solution & benchmark one, respectively.

➤ Result

- Viscosity profile is similar to a benchmark's one. We confirm 3% FVC-E50(Viscoscare-EG50F) solution in DI water is generating the viscosity between pH 3 and 12.



Thickening capability in presence of electrolytes



- **Objectives**

- For the purpose of checking the viscosity resistance to the electrolyte

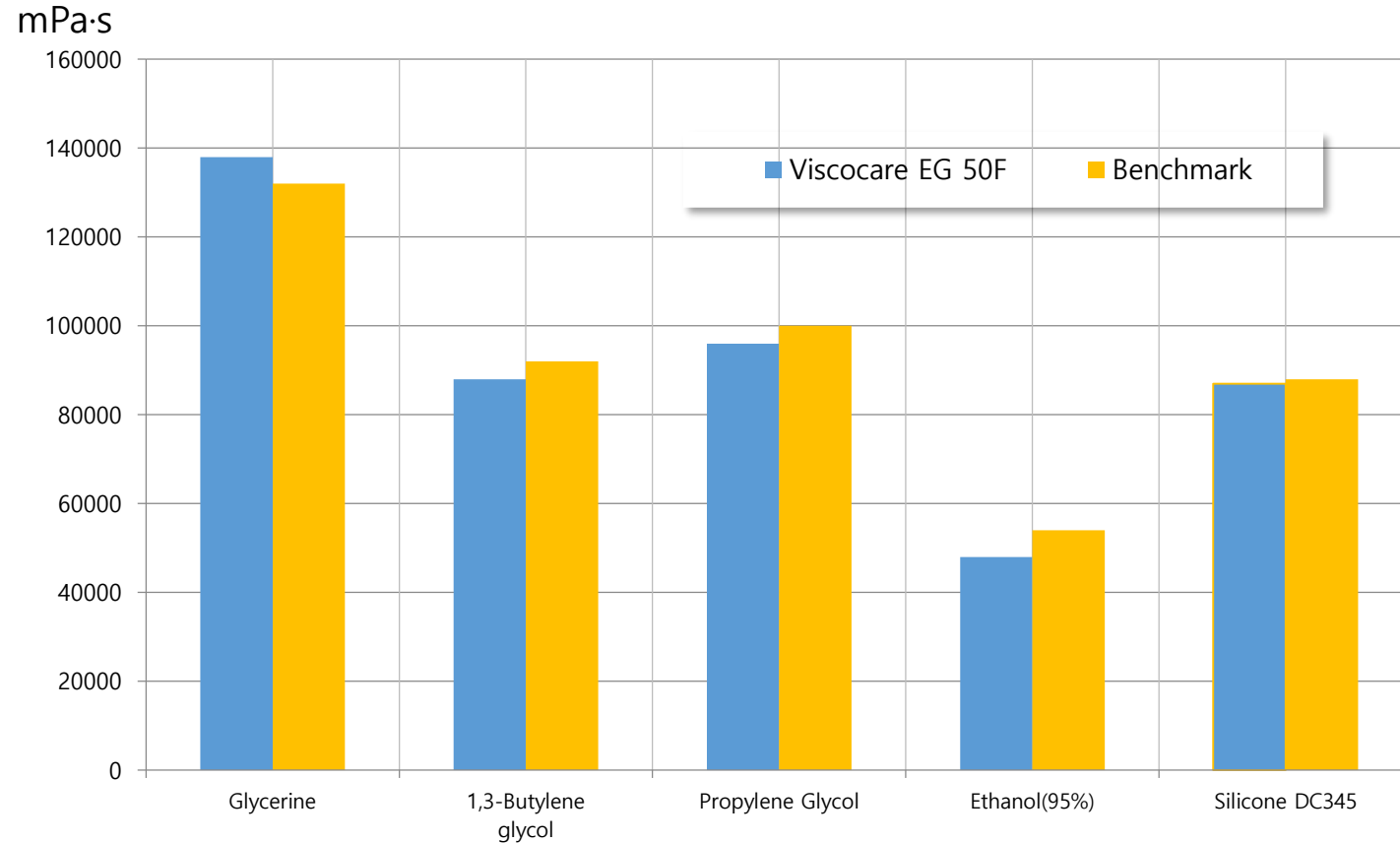
- **Methods**

- Prepare 2% FVC-E50(Viscocare-EG50F) solution in DI water. Do same for benchmark.
- Add various weight of NaCl to 2% FVC-E50(Viscocare-EG50F) solution. Do same for benchmark.
- Mix well and measure the viscosity.

- **Test Result**

- Decreasing trend of viscosity is similar

Compatibility with Solvents



➤ Objectives

- How it works to generate viscosity with diverse solvents in use personal care/ cosmetics.

➤ Methods

- Prepare 2% FVC-E50(Viscoscare-EG50F) solution, 48% DI Water and 50 % solvent of Glycerine, 1,3-Butylene glycol, ethanol, propylene glycol, respectively.
- Prepare 2% FVC-E50(Viscoscare-EG50F) solution, 88% DI Water and 10 % Silicone DC345.
- Measure the viscosity to use Brookfield RVT , 5rpm, spindle no 6

➤ Result

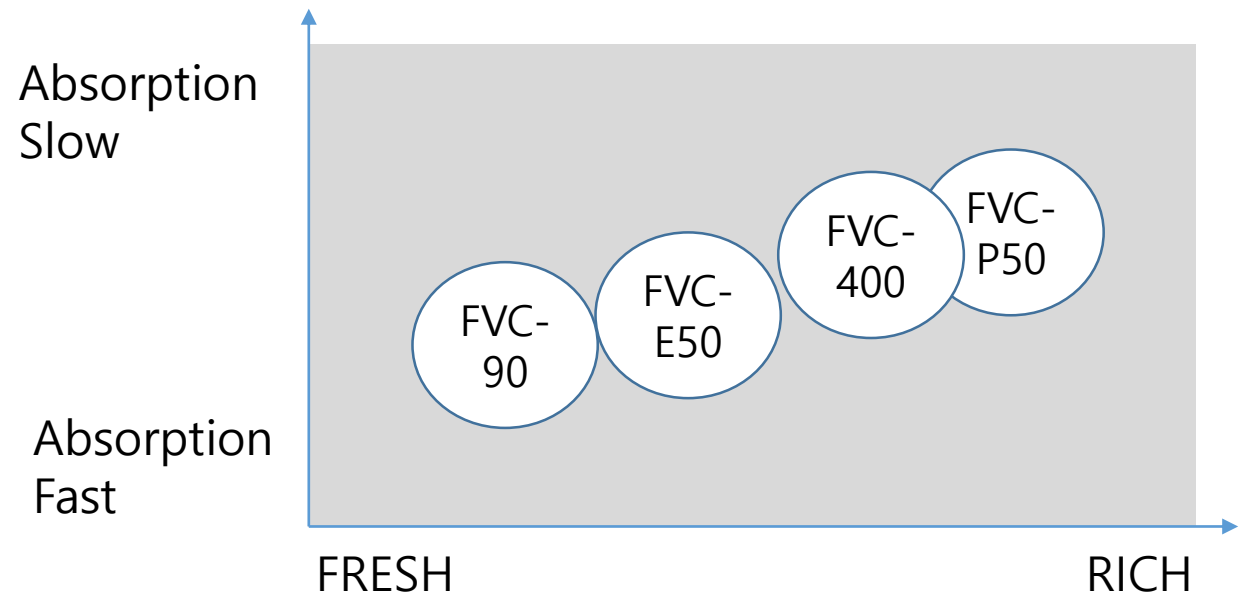
- Viscosity is similar to a benchmark's one.

Sensory



FVC-E50(Viscocare-EG50F) Sensory

- A soft feeling of use
- A non-sticky feeling to use
- A smooth feeling
- Refreshing
- Quick absorption



Formulation Tips



Cream gel (translucent) products – Moisturizing cream, sleeping pack

- Can be added to oil or water phase.
- Adding to the oil phase makes it easy to disperse the thickener for viscosity generation.

Emulsified (milky) products – lotion, cream

- It is recommended to add the polymer after the emulsification stage and before adding the fragrance and preservatives.
- If added before emulsification, it is recommended to be added to oil phase to facilitate production.

Make-up products - tone-up cream, base makeup

- It is recommended to put the thickener in the last stage of emulsification.
- Inorganic pigment recommends the use of products dispersed in oil or silicon (O/W formulation)



Thank you for your attention

If you have further questions or requests, please contact following
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