

HELLO DERM hyaluronic acid is a filler widely used in the field of medical aesthetics. Its rheological and chemical analysis is crucial to understand its performance and application. Here are some key points about the rheological and chemical analysis of HELLO DERM hyaluronic acid:

Rheological properties:

HELLO DERM hyaluronic acid is a viscoelastic material. Its rheological properties include elastic modulus (G'), viscous modulus (G'') and phase angle of hyaluronic acid (δ) and Cohesion reflects (F_n). These parameters describe the deformation and recovery ability of the material when subjected to mechanical stress.

FINE:

G' : 156 Pa

G'' : 68 Pa

Tan δ : 0.436

F_n : 96 gmf

DERM:

G' : 188 Pa

G'' : 75 Pa

Tan δ : 0.399

F_n : 96 gmf

DEEP:

G' : 214 Pa

G'' : 74 Pa

Tan δ : 0.346

F_n : 116 gmf

G' reflects the elasticity of the material, that is, the ability to return to its original shape after deformation; G'' reflects the viscosity of the material, that is, the loss of energy during deformation; the phase angle δ is also called the loss angle, and its tangent value $\tan\delta$ represents the ratio of the loss modulus to the storage modulus, that is, $\tan\delta = G''/G'$, which reflects the elasticity or elasticity of the material. Cohesion (F_n) reflects the ability of a material to maintain its original shape, retain its integrity and resist diffusion.

The rheological properties of HELLO DERM hyaluronic acid make it excellent in facial contouring and wrinkle improvement, maintaining the shape while providing a lasting corrective effect.

Chemical analysis:

- **Main ingredients:** The main component of HELLO DERM hyaluronic acid is hyaluronic acid, which is a natural substance found in the skin, muscles and cartilage. It has an amazing ability to lock in water and can lock up to 1000 times its own weight.

- **Chemical structure:** Hyaluronic acid, also known as hyaluronic acid (HA), is a polysaccharide naturally present in human tissues. It is a disaccharide unit glycosaminoglycan composed of D-glucuronic acid and N-acetylglucosamine.

HELLO DERM hyaluronic acid is prepared by chemical cross-linking technology. The cross-linked HA is not susceptible to enzymatic degradation. Compared with non-cross-linked HA, cross-linked HA improves rheological properties and prolongs its duration in the body. The degree of cross-linking in the manufacturing process, cross-linking conditions (such as temperature, pH), molecular starting amount and post-cross-linking modifications (such as screening/homogenization, adding lidocaine, etc.) will affect the chemical properties and rheological properties of HELLO DERM hyaluronic acid.

- **Cross-linking technology:** Cross-linking technology is the key to improving the stability and durability of hyaluronic acid. The monophasic cross-linking technology used by HELLO DERM hyaluronic acid can give the product higher viscosity and elasticity while maintaining its biocompatibility and absorbability.

- **Application areas:** HELLO DERM hyaluronic acid is widely used in the field of medical aesthetics due to its advantages such as biocompatibility and degradability, overall safety and tolerance, high hydrophilicity, easy administration, short recovery time, immediate effect and low incidence of immune response. Its rheological and chemical properties make HELLO DERM hyaluronic acid suitable for facial filling, such as wrinkle filling, lip plumping, etc., which can provide a natural look and feel.

- **Product Information:** HELLO DERM hyaluronic acid has different models, such as HELLO DERM Deep, HELLO DERM Derm, HELLO DERM Fine, etc., which have different rheological properties and indications to meet different clinical needs. For example, HELLO DERM Deep is suitable for deep tissue filling and lifting due to its higher G' value, while HELLO DERM Fine is more suitable for shallow skin filling due to its lower G' value.

In summary, the rheological and chemical analysis of HELLO DERM hyaluronic acid shows that it is a safe and effective cosmetic filler, and its specific rheological properties and chemical composition make it an ideal choice for facial cosmetic treatments.