**The role of wetting agents in paint and pigment/dye systems - HY Chemicals**

1. **Wetting agents in paints are divided into two types: substrate wetting agents and wetting dispersants. Substrate wetting agents are used to improve the surface tension and permeability of the paint, allowing it to wet the substrate better and thus improve the adhesion of the paint. They are particularly widely used in improving the adhesion of primers to substrates, and generally consist of fluorocarbon or fluorocarbon-modified ion or non-ion type substances or other materials that can improve substrate wetting.**
2. **Wetting dispersants used in water-based coatings are used to reduce the interfacial tension of the coating, allowing it to spread evenly on the surface during application, much like paint. This is because water has a high surface tension (70 dynes/cm) and is difficult to spread evenly. If the coating has this high surface tension, it can lead to large-scale shrinkage during brushing or spraying. By adding the appropriate wetting agent, the tension of the coating can be lowered to below 30, approaching the tension of paint. In industrial coatings, wetting agents are required in different amounts depending on the material of the construction surface, resulting in a variety of wetting agents.**
3. **Wetting agents are required for pigment and dye slurries to wet the pigments and dyes, and sometimes also to disperse them. The appropriate combination of dispersants and wetting agents ensures system stability and effectively improves color rendering.**
4. **Currently, most non-ionic wetting agents belong to the class of APEO substances, which are chemical substances subject to environmental regulations. Therefore, choosing the right wetting agent is a systematic engineering process.**