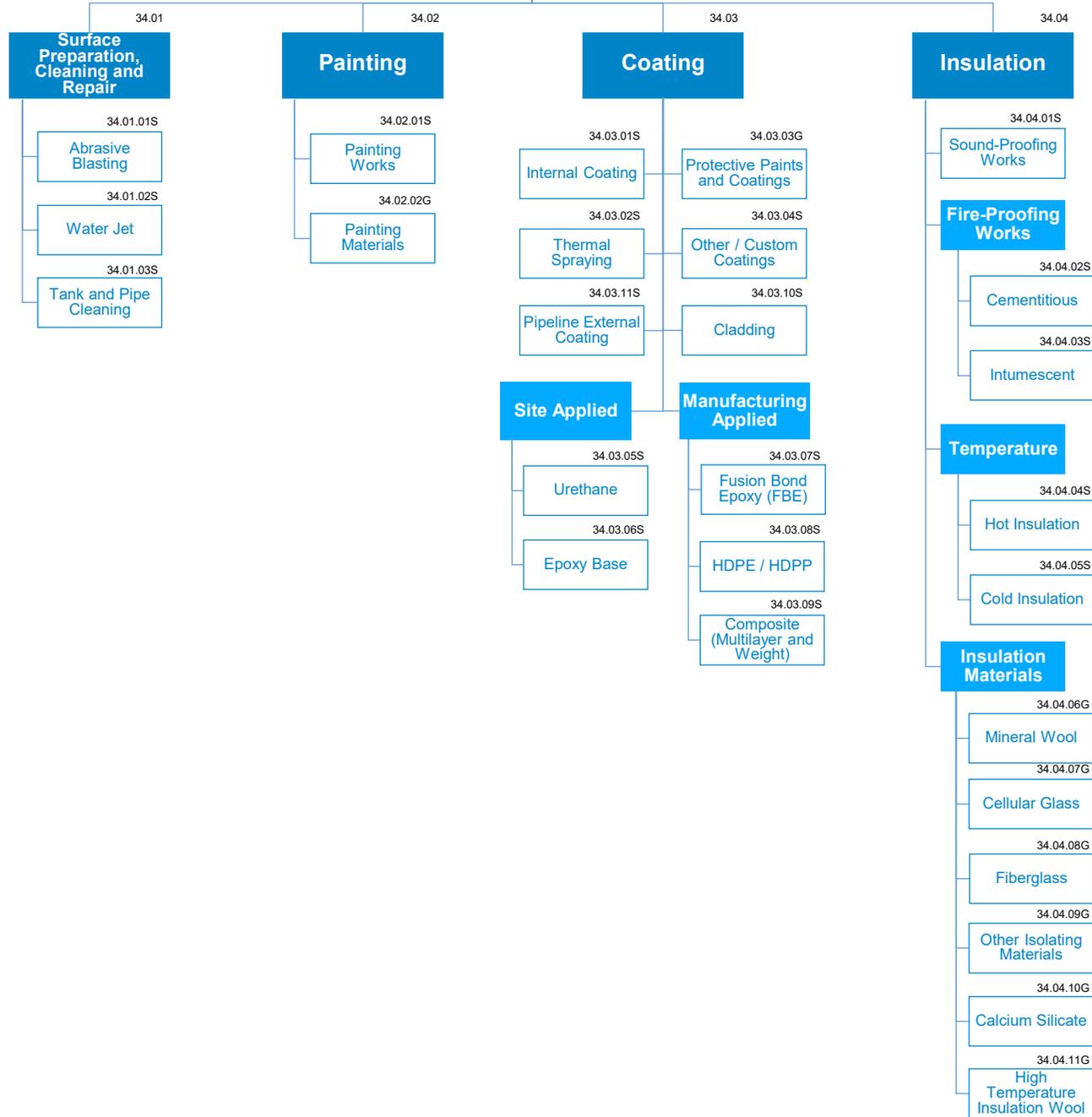


34 **Painting, Coating, Insulation and Sound Proofing**



# Painting, Coating, Insulation and Sound Proofing

Works performed to protect lines, equipment or areas from the damage caused by the environment around them and also for the safety of the operators when performing their activities.

They also include the works performed to protect equipment from an eventual fire or disaster that may occur during the operations.

Insulation and sound proofing works are performed to avoid the loss of energy in equipment and processes that need to keep its temperature, also in equipment that cause extreme vibration, plus make the operation on these equipment safer for the operators.

## MAIN RATIONALES BEHIND THE STANDARD CATEGORIZATION

### Surface Preparation, Cleaning and Repair

- This family comprehends the activities performed to clean and prepare a surface to a painting or a coating process, as well as the activities to clean equipment, floors and repair surfaces with wear
- As a conceptual level, preparing a surface to perform painting or coating activities consists in cleaning it to assure the best adhesion of the coating or painting
- Abrasive Blasting category includes all the techniques that shots any abrasive element to a surface in order to “clean” it
- Pipe cleaning includes “pigging” services
- Chemical cleaning or washing includes all the methods of removing impurities using chemical substances or solvents such as pickling.
- Competition changes regarding the method used to prepare or clean the surface as the technology and safety issues vary from one to the other

### Painting

- This family refers to the painting of material and equipment to mainly prevent corrosion
- This painting process can be performed at plant, site or fabrication yard
- This family is different from the Painting Works (part of the Group “Construction and Civil Works”) that refers to painting for civil buildings

### Coating

- This family takes into account the services performed to protect pipelines from environment by applying polymers
- Competition changes on mainly type of coating and application place, it is common that a supplier that offers one polymeric coating, be able to provide all the range of available polymers and the same for metallic, also the equipment required to coat varies and so do the skills of vendors
- Category “HDPE and HDPP” includes double and triple layer coatings in these materials and also PE and PP
- Category Other/Custom coatings includes vendors that can provide coatings not commonly used in the industry or are able to customize coating according to the buyers specs
- Multilayer Coatings of mixed materials are included in the “Composite” Category
- Thermal spraying refers to the coating of a surface with a flux of a molten material, whether ceramic or metallic, through processes such as Flame Spraying, Combustion Spraying, High Velocity Oxygen Fuel (HVOF) coating and Plasma Spraying, as well as Weld Overlay.
- Cladding is the process of joining two different materials, by creating a Physical/chemical bond, different to welding, with the purpose of coating and protect a base material
- Related categories included in other Groups
  - Galvanizing, is not including among “Coating” family as the process to perform it is chemical and changes the properties of the material, so this category can be found in the family “Surface treatment” of the group 14 “Manufacturing Works and Services”
  - HVAC Duct Vapor Barriers is included in Group 03 (“Packages”) as it is considered part of the HVAC system instead than a coating

### Insulation

- Insulation is performed to:
  - keep equipment within the process temperature whether hot or cold
  - protect operators from these process temperatures
  - reduce the noise by equipment such generators
- Similar to these works, fire proofing is a safety requirement to reduce risk for certain processes in case of an accident in the plant
- Competition changes based on the type of Insulation activities (sound-proofing, fire-proofing, temperature insulation) and not based on the materials that are used in the works
- Metal Sheets for insulation can be found in group 32 “Construction, Civil Works and Installation” as it refers mostly to ceilings and walls.
- Mineral Wool category contains all the materials formed by spinning or drawing molten minerals as Rockwool or Glass Wool, typically suitable for less than 1000°C
- High Temperature Ceramic Wool Category includes fibers able to resist more than 1000°C such as Ceramic fiber, Zirconia and Alumina fiber
- Calcium Silicate is a category itself due to its fabrication process.
- Polystyrene and other polymers are not considered due to its low resistance to high temperatures; typically they degrade after 150°C which is not suitable for high temperature processes
- There is not a category for cryogenic applications as the materials used for high temperatures are also used for cryogenic applications.