

Technical Note No 36

Assessing the appearance of metals and finishes



This Technical Note is one of three on assessing appearance. The series comprises:

TN 34 Assessing the appearance of new curtain walling

TN 35 Assessing the appearance of glass

TN 36 Assessing the appearance of metals and finishes

Introduction

The quality of metals and finishes in curtain walling is often assessed by visual inspection, and disputes sometimes arise over the associated procedures and acceptance criteria. This is particularly the case where a specification is not sufficiently detailed.

Metals may be finished in various ways including mill finish, polishing, chemical conversion, such as anodising, and application of a coating or coating system. Finishes may be primarily protective or decorative.

This Note is confined to visual aspects that are commonly queried on new construction and does not cover condition surveys after a period in service. It should be read in conjunction with TN34 'Assessing the appearance of curtain walling'.

Factors affecting appearance

Final appearance is dependent upon the quality of the base metal with issues such as flatness of panels and quality of manufacture, (including processes such as welding) having a major influence upon the final visual standard achieved. When finishing such as anodising, galvanising or the application of an organic coating is required, control of preparation prior to surface treatments is critical to avoid a situation where the finish is technically compliant with the specification but the appearance is considered visually unacceptable. This is a subjective

judgement and control samples must be approved prior to production to avoid disagreement on the standard required. After finishing of the components any damage to the surface during handling or installation, such as dents and scratches (particularly on panels), will also affect the appearance.

Table 1 gives details of factors affecting the appearance of metals and tolerances for metalwork. Table 2 gives guidance on visual appearance of finishing involving conversion of the substrate metal and Table 3 gives guidance on visual appearance of organic finishes applied to the substrate metal.

Viewing criteria for finishes

The inspection criteria for finishes given in the following standards are suitable for use on site for final visual acceptance, primarily to check for on site damage.

It must however be appreciated that potential defects such as peeling of organic coatings or chalking of soft anodic films cannot be identified prior to exposure by visual assessment and comprehensive quality control inspection at the finishing plant, with appropriate independent inspection, is therefore critically important to avoid the wasted effort and significant cost of installing defective components.

BS6496 Specification for powder organic coatings for application and stoving to aluminium alloy extrusions, sheet and preformed sections for external