Register Identifier:	6

REGISTER OF GRAPHICAL ITEMS
Colour Model Section

Colour Model Name:	RGB-alpha
Sponsoring Authority:	ISO/IEC JTC 1 SC24
Date of Registration:	
ISO Approval Date:	
Amendment Record:	

Description:

This colour model value identifies a colour model which may be used in the CGM Colour Model element, or anywhere else in the CGM where a colour model value may appear.

This colour model is a 4-component model, whose first three components are identical to the RGB model of the CGM standard, and whose fourth component defines an “alpha transparency” channel.

Relationship to standards:

ISO/IEC 8632-1:1992, Information processing systems – Computer graphics – Metafile for the storage and transfer of picture description information Part 1: Functional specification

ISO/IEC 8632-2:1992, Information processing systems – Computer graphics – Metafile for the storage and transfer of picture description information Part 2: Character encoding

ISO/IEC 8632-3:1992, Information processing systems – Computer graphics – Metafile for the storage and transfer of picture description information Part 3: Binary encoding

ISO/IEC 8632-4:1992, Information processing systems – Computer graphics – Metafile for the storage and transfer of picture description information Part 4: Clear text encoding

Description

The RGB-alpha colour model of this registration is a 4-component colour model for use with CGM. The first three components are RGB, as in value "1" of the CGM COLOUR MODEL element. The fourth component is alpha transparency.

Conceptually, values of the alpha transparency are real numbers between 0.0 (fully transparent) and 1.0 (fully opaque), inclusive, and intermediate values have meaning identical to the alpha transparency defined in Escape 45.

The actual representation of the alpha value in the RGB-alpha 4-tuple is an integer. Its numeric range is defined by the same COLOUR PRECISION value as applies to the R, G, and B components. If the COLOUR MODEL RGB-alpha is selected, then the COLOUR VALUE EXTENT is a 4-component value, just as for the CMYK colour model.

While the normal use of the COLOUR VALUE EXTENT element is to define the min-value of the colour range to correspond to integer value 0 and the maximum value of the colour range to correspond to the largest integer representable in the COLOUR PRECISION (i.e., 2**N-1 for binary encodings and MAXINT for clear text encodings), nevertheless the CGM standard does not make this constraint. Therefore for RGB-alpha colour model, this definition is made compatibly with the CGM standard: the min-value of the fourth component of COLOUR VALUE EXTENT corresponds to alpha value 0.0, and the max-value to alpha value 1.0. Any values outside of the range [min-value, max-value] are treated as 0.0 (if less than min-value) or 1.0 (if greater than max-value).

CGM Information

The RGB-alpha colour model of this registration is selected by the type Index parameter of the COLOUR MODEL element of the CGM standard. Value "6" selects RGB-alpha.