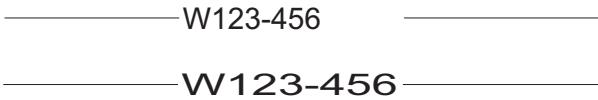


# Issues affecting use of SVG 1.2 in Technical Graphics

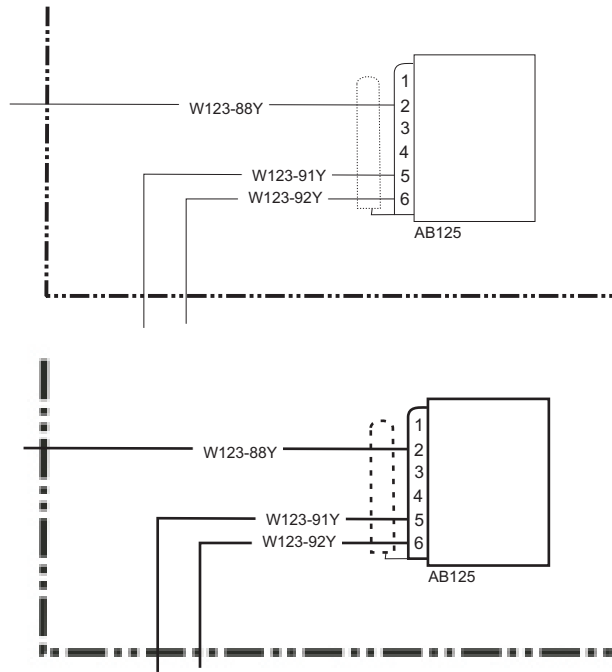
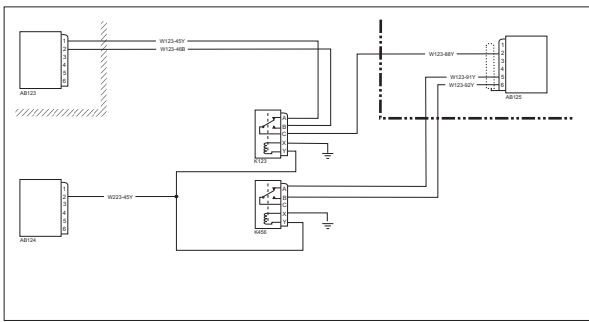
Need for Fitting Text to a bounding rectangle  
(CGM Restricted Text)



Accomplished via setting  
(font-size or length) & textLength

Overall, a policy of strict conformance has been mandated by some technical graphics constituencies -- Air Transport Association (ATA), defense, WebCGM, etc. Strict conformance is expressed in a strict profile, which minimally bans: private extensions, optional features, implementation dependent features and results. **Anything that can lead to unpredictable or inconsistent results across implementations is prohibited.\***

Need for non-scaling: dash patterns, lines, and fill patterns



\* Source: CGM vs SVG for Technical Graphics  
<http://www.cgmopen.org/technical/cgm-svg-20030508-2.htm>

## Engineering line types

Engineering and technical applications have standardized (an ISO standard) a set of commonly used line types, such as phantom line, center line, single-arrow, double-arrow, break-style, etc., including precise specifications for their rendering criteria and tolerances.

WebCGM includes engineering line types as a registered extension to the ISO/IEC CGM:1999 standard.

## Linestyle definition

Technical graphics (and especially engineering drawing) have particular requirements for how vertexes are handled (inked or not, adaptive adjustment of line type or not) for non-solid line types.

WebCGM includes attributes to select different vertex-inking rules and adaptive linetypes.

SVG does not support such engineering-specific linestyle handling rules. Each of the line types may be exactly selected by its registered index (6-14).

## Embedded raster images

CGM: Various binary compression formats within the CGM file  
SVG: base64 encoding

Format	Compression	File size	Second file
WebCGM	Group 4 compression	65 KB	-
SVG with ref	JPEG	1 KB	1,282 KB
SVG with ref	PNG	1 KB	150 KB
SVG	included	1,732 KB	-
SVGz	included	990 KB	-