

# IGES Import Entities

**Table 1: IGES import supported Entities**

Entity No.	Entity Description	CADfix Conversion	Notes
0	Null	Not Supported	
100	Circular Arc	Arc or NURBS Line	Imported as an Arc if the conversion to NURBS is not enabled, otherwise NURBS.
102	Composite Curve	Combined Line	
104	Conic Arc	NURBS Line	
106	Copious Data	NURBS Line/Combined Line	Each individual segment is imported as a NURBS line, if more than one segment exists then a combined line is created.
108	Plane	Plane Shape/Surface	Always imports Plane Shape, a Surface is created if a Plane is closed by a boundary.
110	Straight Line	Straight Line	
112	Parametric Spline Curve	NURBS Line	
114	Parametric Spline Surface	NURBS Surface	
116	Point	Point	
118	Ruled Surface	NURBS/Blend Shape	Creates a NURBS shape if rail lines are considered compatible, otherwise creates a blend shape. Rail lines are considered compatible if an evaluation of both lines match with same degree, number of control points and number of knots.
120	Surface of Revolution	NURBS Shape	Sweeps a line called the generatrix around an axis of revolution line through an angle to create a NURBS Shape.
122	Tabulated Cylinder	NURBS Shape	Sweeps a line called the generatrix parallel to itself along a line called the directrix to create a NURBS Shape.
123	Direction	Only stored during translation in memory	This is only stored in memory for entities that require a direction. The direction is a vector describing a movement from a point defined by another entity. (e.g. entities 190, 192 etc.)
124	Transformation Matrix	Transformation Matrix	
125	Flash	Point	Translated as a point.
126	Rational B-Spline Curve	NURBS Line	
128	Rational B-Spline Surface	NURBS Shape	
130	Offset Curve	Not Supported	
132	Connect Point	Not Supported	
134	Node	Not Supported	

Entity No.	Entity Description	CADfix Conversion	Notes
136	Finite Element	Not Supported	
138	Nodal Displacement and Rotation	Not Supported	
140	Offset Surface	NURBS Shape	Copies an existing shape through an offset to create a second shape (NURBS only supported)
141	Boundary Entity	Combined Line	The combined line indicates a loop defining an inner or outer boundary.
142	Curve on Parametric Surface	Only stored during translation in memory	Defines the relationship between a line and its embedding shape. Mainly used if 2D Parametric curves are imported, otherwise just a pointer from the surface to the inner or outer boundary loops.
143	Bounded Surface	Surface	Defines the topological relationship between a surface and it's boundaries.
144	Trimmed Parametric Surface	Surface	Defines the topological relationship between a surface and it's boundaries.
146	Nodal Results	Not Supported	
148	Element Results	Not Supported	
150	Block	Not Supported	
152	Right Angular Wedge	Not Supported	
154	Right Circular Cylinder	Not Supported	
156	Right Circular Cone Frustum	Not Supported	
158	Sphere	Not Supported	
160	Torus	Not Supported	
162	Solid of Revolution	Not Supported	
164	Solid of Linear Extrusion	Not Supported	
168	Ellipsoid	Not Supported	
180	Boolean Tree	Not Supported	
182	Selected Component	Not Supported	
184	Solid Assembly	Not Supported	
186	Solid Manifold B-Rep	Body	Defines the topological relationship between a body and it's surfaces, gained from entity 514.
190	Plane Surface	Plane Shape	
192	Right Circular Cylindrical Surface	Cylindrical Shape	
194	Right Circular Conical Surface	Conical Shape	
196	Spherical Surface	Spherical Shape	
198	Torodial Surface	NURBS Shape	Creates a NURBS Shape in the form of a torus.

<b>Entity No.</b>	<b>Entity Description</b>	<b>CADfix Conversion</b>	<b>Notes</b>
202	Angular Dimension	Not Supported	
204	Curve Dimension	Not Supported	
206	Diameter Dimension	Not Supported	
208	Flag Note	Not Supported	
210	General Label	Not Supported	
212	General Note	Not Supported	
213	New General Note	Not Supported	
214	Leader (Arrow)	Not Supported	
216	Linear Dimension	Not Supported	
218	Ordinate Dimension	Not Supported	
220	Point Dimension	Not Supported	
222	Radius Dimension	Not Supported	
228	General Symbol	Not Supported	
230	Sectioned Area	Not Supported	
302	Associatively Definition	Not Supported	
304	Line Font Definition	Not Supported	
306	Macro Definition	Not Supported	
308	Subfigure Definition	Set	Places all geometrical parts that make up a subfigure Definition into a set to be used by entity 408.
310	Text Font Definition	Not Supported	
312	Text Display Template	Not Supported	
314	Colour Definition	Not Supported	
316	Units Data	Not Supported	
320	Network Subfigure Definition	Not Supported	
322	Attribute Subfigure Definition	Not Supported	
402 - Form 7	Associatively Instance (Group w/o Back Pointers)	Set	Places all geometrical parts that make up a group without back pointer associatively into a set. This is used in IGES import to associate inner boundaries of surfaces to a parent surface through use of 402 (Form 9)
402 - Form 9	Associatively Instance (Single Parent)	Surface (only entity supported)	Uses a set defined by 402 (Form 7) to indicate a surface with inner boundaries. A parent surface is supplied, and the set defines the inner boundaries.
404	Drawing	Not Supported	
406	Property	XASG	Labels imported as XASsiGnments. "Entity Label" field [max. 8 chars.] from an assigned label attribute.

<b>Entity No.</b>	<b>Entity Description</b>	<b>CADfix Conversion</b>	<b>Notes</b>
408	Singular Subfigure Instance	Set	Copies geometry in an existing set through a transformation (applying scale and rotation parameters) to a new definition. The resulting top level entity will be a new set. The set should be supplied by the 308 entity.
410	View	Not Supported	
412	Rectangular Array Subfigure Instance	Not Supported	
414	Circular Array Subfigure Instance	Not Supported	
416	External Instance	Not Supported	
418	Nodal Load/Constraint	Not Supported	
420	Network Subfigure Instance	Not Supported	
422	Attribute Table Instance	Not Supported	
430	Solid Instance	Not Supported	
502	Vertex List	Not Supported	All IGES curves are considered unbounded in space. IGES import determines the bounds of these lines from the end points or trimming values supplied for that entity. Therefore the Vertex List entity is not supported.
504	Edge List	Only stored during translation in memory	The edge list entity is used to refer surfaces to the lines that make up its boundaries. This is stored in memory to build up the topology relationship.
508	Loop	Combined line	Defines the lines that build up an inner or outer loop, gained for entity 504.
510	Face	Surface	Defines the loops that build up the surface boundaries, gained from entity 508, also defines the underlying shape, gained from any shape entity.
514	Shell	Combined Surface	Determines a shell that represents an inner or outer boundary of a body, gained form entity 514