ALIAS SHALL NOT BE LIABLE FOR TECHNICAL OR EDITORIAL ERRORS OR OMISSIONS CONTAINED HEREIN NOR FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE FURNISHING, PERFORMANCE OR USE OF THIS MATERIAL.

COPYRIGHT

1 Stuart Road,
Manor Park,
Runcorn,
Cheshire,
WA7 1TS,
United Kingdom.
Telephone: +44 (0) 1928 579311
Fax: +44 (0) 1928 579389
E-mail: info@alias.ltd.uk
Web: www.alias.ltd.uk

TRADEMARKS

	Negative Text Records -1 to –199 records marked with an asterisk can be used with the 'Frame Text Positioning' facility	
Isogen Record	**Description**	**PCF Equivalent**
-1	Overflow Text record	
-2	Spare	
-3	Text input for drawing Title Block	Data in **TITLE-BLOCK** file
-4	Special SKEY input	Data in **SPECIAL-INSTRUMENTS** file
-5	Used by CADC for PDMS Version Number	
-6 *	Pipeline Name	**PIPELINE-REFERENCE**
-7 *	Spool Prefix Identifier	**SPOOL-PREFIX**
-8 *	Revision Identifier	**REVISION**
-9 *	Project Name	**PROJECT-IDENTIFIER**
-10 *	Batch Reference / Plant Area Name	**BATCH** or **AREA**
-11 *	Piping Specification Name	**PIPING-SPEC**
-12 *	Pipeline Nominal Pressure Class / Rating	**NOMINAL-CLASS** or **NOMINAL-RATING**
-13 *	Line Type Identifier	**PIPELINE-TYPE**
-14 *	IDF creation Date(or system Date – see option switch6)	**DATE-DMY**
-15 *	Insulation Specification Name	**INSULATION-SPEC**
-16 *	Tracing Specification Name	**TRACING-SPEC**
-17 *	Painting Specification Name	**PAINTING-SPEC**
-18 *	Specific Gravity of Pipeline contents	**SPECIFIC-GRAVITY**
-19 *	Pipeline Temperature	**PIPELINE-TEMP**
-20	Component Material Item Code	**ITEM-CODE**
-21	Component Material Description	**DESCRIPTION**
-22	Component Tag / Name	**TAG** or **NAME**
-23 *	Standard Bend Radius for Pipeline	**BEND-RADIUS** *in Pipe Header Data*
-24	Bend Radius for individual bend	**BEND-RADIUS** *in Component Data*

-25 *	System Isometric Name	**SYSTEM-ISOMETRIC-REFERENCE**
-26	Change of Piping Specification	**PIPING-SPEC**
-27	BOP (Bottom of Pipe) Elevation value	**BOP-ELEVATION**
-28 *	User Defined Spool Name	**SPOOL-IDENTIFIER**
-29 *	Equipment / Vessel Trim Name	**EQUIPMENT-TRIM-REFERENCE**
-30	Pipeline Connection to another Pipeline (CONT ON)	**END-CONNECTION-PIPELINE**
-31	Pipeline Connection to Equipment Item (CONN TO)	**END-CONNECTION-EQUIPMENT**
-32	Pipeline termination at Open End (OPEN)	**END-POSITION-OPEN**
-33	Pipeline termination at Closed End (CLOSED)	**END-POSITION-CLOSED**
-34	Pipeline termination at Vent location (VENT)	**END-POSITION-VENT**
-35	Pipeline termination at Drain location (DRAIN)	**END-POSITION-DRAIN**
-36	Undefined termination - Only Co-ordinates output	**END-POSITION-NULL**
-37	User defined Message on a component	**MESSAGE**
-38	Pipeline Split Point indicator (-38 ++++)	**ISO-SPLIT-POINT**
-39	Unique Component Identifier	**UNIQUE-COMPONENT-IDENTIFIER**
-40	Compound Direction message on a component	**DIRECTION**
-41 *	User Defined Miscellaneous Specification Name	**MISC-SPEC1**
-42 *	User Defined Miscellaneous Specification Name	**MISC-SPEC2**
-43 *	User Defined Miscellaneous Specification Name	**MISC-SPEC3**
-44 *	User Defined Miscellaneous Specification Name	**MISC-SPEC4**
-45 *	User Defined Miscellaneous Specification Name	**MISC-SPEC5**
-46	Gearbox Orientation Direction Message	**GEARBOX**
-47	Break In Point Identification Name	**BIP-IDENTIFIER**
-48	1) System Isometric Drawing Split Point Indicator 2) Equipment Trim Isometric Split Point Indicator	**SYSTEM-SPLIT** **EQUIPMENT-TRIM-SPLIT**
-49	Induction Bend Start indicator + Identifier	**INDUCTION-START**
-50	Induction Bend End indicator	**INDUCTION-END**
-51	Used for Isogen internal processing	
-52	Used for Isogen internal processing	
-53	Used for Isogen internal processing	
-54	Used for Isogen internal processing	

-55	**1) FFI use** -55 ++++ FFI Split Point - No Weld -55 ++++ 1 WS FFI Split Point - with Site Weld -55 ++++ 1 WF FFI Split Point - with Field Fit Weld -55 ++++ 1 WO FFI Split Point - with Offshore Weld -55 SS28901 FFI Identifier (System Name + Program generated suffix)	
-55	**2) STORK Division I.D. and Sequence No. system** -55 12345 Sequence Number (Limited to five digits) -55 **A Division Identifier	
-55	**3) General Use** Bypass Closure (-55 ++++B) -55 ++++E Open End marker -55 B01 BIT Identifier	**BYPASS-CLOSURE-POINT**
-55	4) Pipeline Start (-55 ++++START)	**START-CO-ORDS**
-56	Used for Isogen internal processing	
-57	Used for Isogen internal processing	
-58	Used for Isogen internal processing	
-59	Used for Isogen internal processing	
-60	Used for Isogen internal processing	
-61 *	COMPIPE Area Identification record (Redundant)	**COMPIPE-AREA**
-62 *	COMPIPE Drawing Number record (Redundant)	**COMPIPE-DRAWING-NO**
-63 *	COMPIPE Description record (Redundant)	**COMPIPE-DESCRIPTION**
-64	Weight	**WEIGHT**
-65	Spare	
-66	Isometric Drawing Output Plotfile Name	**OUTPUT-FILE-NAME**
-67	Weld Number - User Defined or Repeat	**REPEAT-WELD-IDENTIFIER**
-68	Weld Specification Name	**WELD-SPEC**
-69	Repeat Part Number (V8.5.0+)	**REPEAT-PART-NUMBER**

-70	User Defined Message (Output in Square Ended Box)	**MESSAGE-SQUARE**
-71	User Defined Message (Output in Diamond Ended Box)	**MESSAGE-POINTED**
-72	User Defined Message (Output in Round Ended Box)	**MESSAGE-ROUND**
-73	User Defined Message (Output in Triangular Box)	**MESSAGE-TRIANGLE**
-74	User Defined Message (Output in Diamond shaped Box)	**MESSAGE-DIAMOND**
-75	User Defined Message (Output in a Circle)	**MESSAGE-CIRCLE**
-76	Port Reference for Multi-port component	**PORT-POINT?**
-77	Spare	
-78	Detailed Sketch Filename Information Note Filename	**DETAIL-SKETCH-IDENTIFIER**
-79	Remark Identification Number **N.B.** Remarks may be attached to either a WELD or a COMPONENT	1) **WELD-REMARK-NUMBER** 2) **COMPONENT-REMARK-NUMBER**
-80	Component - Optional Material Description record	**Any User Defined Word**
-81	Component - Optional Material Description record	**Any User Defined Word**
-82	Component - Optional Material Description record	**Any User Defined Word**
-83	Component - Optional Material Description record	**Any User Defined Word**
-84	Component - Optional Material Description record	**Any User Defined Word**
-85	Component - Optional Material Description record	**Any User Defined Word**
-86	Component - Optional Material Description record	**Any User Defined Word**
-87	Component - Optional Material Description record	**Any User Defined Word**
-88	Component - Optional Material Description record	**Any User Defined Word**
-89	Component - Optional Material Description record	**Any User Defined Word**
-90 *	Pipeline Isometric Drawing sequence Number	**PIPELINE-DRAWING-SEQUENCE-NUMBER**
-91 *	Spool Sheet Isometric Drawing sequence Number	**SPOOL-DRAWING-SEQUENCE-NUMBER**
-92 *	Client Drawing Name	**CLIENT-DRAWING-IDENTIFIER**

-93	Highest Site Assembly Identification Number (Repeatability function)	**HIGHEST-ASSEMBLY-NUMBER**
-94	Highest Spool Number (Repeatability function)	**HIGHEST-SPOOL-NUMBER**
-95	Highest Unique Identifier (Repeatability function)	**HIGHEST-UNIQUE-IDENTIFIER**
-96	Highest Pipe Support Weld Number used (Repeatability function)	**HIGHEST-SUPPORT-WELD-NUMBER**
-97	Highest Weld Number used (Repeatability function)	**HIGHEST-WELD-NUMBER**
-98	Highest Part Number used (Repeatability function)	**HIGHEST-PART-NUMBER**
-99	Pipeline Isometric or Spool Isometric Re-plotting indicator	**REPLOT**
-100	IDF or PCF Input filename	
-101	Drawing Frame (Backing Sheet) Input filename	**DRAWING-FRAME**
-102	Isometric Output Plotfile Name Prefix characters	**PLOTFILE-PREFIX**
-103	User Defined Symbols Input filename	**BINARY-SYMBOLS**
-104	Material Control Output filename	**MATERIAL-CONTROL**
-105	Messages Output filename	**MESSAGE**
-106	PDMS Error Message file (CADC only - not used by Alias)	
-107	PDMS 'Resume' identifier (CADC only - not used by Alias)	
-108	Printed Material List Output filename	**PRINTED-MATERIAL-LIST**
-109	Centreline Length Summary Output filename	**CENTRELINE-LENGTH**
-110	Centreline Length / Insulation Output filename	**CENTRELINE/INSULATION-LENGTH**
-111	Stressing Interface Output filename	
-112	Pipe Support Summary Output filename (Overwrite) (alternative to –114 file)	**SUPPORT-SUMMARY**
-113	Pipe Support Data Output filename - Binary	
-114	Pipe Support Information Output filename (alternative to –112 file)	**SUPPORT-INFORMATION-FILE**
-115	Materials - Sheet Output filename (Overwrite)	**MATERIAL/SHEET-IDENTIFICATION**
-116	Cut Pipe List Summary Output filename (Overwrite) (alternative to –129 file)	**CUT-LIST-SUMMARY**

-117	Repeatability Return Output filename	**REPEATABILITY-RETURN**
-118	COMPIPE - LINE and MTO filenames (Redundant)	
-119	Font Input filename (CADC only - not used by Alias)	
-120	Welding Definition File Input filename	**WELDING-DEFINITION**
-121	Material List Remarks Input filename	**REMARKS**
-122	Materials Definition File Input filename	**MATERIAL-LIST-DEFINITION**
-123	Data Definition File Input filename	**DRAWING-DEFINITION**
-124	Detail Sketch directory Input name	**DETAIL-SKETCH-DIRECTORY**
-125	Weld Summary Output filename (Append) (alternative to –126 file)	**WELD-SUMMARY-APPEND**
-126	Weld Summary Output filename (Overwrite) (Is alternative to –125 file)	**WELD-SUMMARY-OVERWRITE**
-127	Bending Information Output filename (Append) (Is alternative to –128 file)	**BENDING-FILE-APPEND**
-128	Bending Information Output filename (Overwrite) (Is alternative to –127 file)	**BENDING-FILE-OVERWRITE**
-129	Cut List Summary Output filename (Append) (Is alternative to –116 file)	**CUT-LIST-SUMMARY-APPEND**
-130 *	General Weld Prefix	**WELD-PREFIX-GENERAL**
-131 *	Fabrication Weld Prefix	**WELD-PREFIX-FABRICATION**
-132 *	Erection (Site / Field) Weld Prefix	**WELD-PREFIX-ERECTION**
-133 *	Offshore Weld Prefix	**WELD-PREFIX-OFFSHORE**
-134 *	Fabrication Support Weld Prefix	**SUPPORT-WELD-PREFIX-FABRICATION**
-135 *	Erection Support Weld Prefix	**SUPPORT-WELD-PREFIX-ERECTION**
-136 *	Offshore Support Weld Prefix	**SUPPORT-WELD-PREFIX-OFFSHORE**
-137	Spare	
-138	Spare	
-139	Spare	
-140	Function Definition Input filename	**FUNCTION-DEFINITION**
-141	Component Information Input filename	**COMPONENT-INFORMATION**
-142	Insulation Weights Input filename	**INSULATION-WEIGHT**

-143	Specific Gravity Input filename	**SPECIFIC-GRAVITY**
-144	C of G Output filename	**WEIGHT/COFG-SUMMARY-APPEND**
-145	C of G Output filename	**WEIGHT/COFG-SUMMARY-OVERWRITE**
-146	Bolting Information Input filename	**BOLT-INFORMATION-FILE**
-147	STORK - Data Output Transfer file to ACCESS system	**REGISTRATION-INFORMATION-FILE**
-148	STORK - Data Output Transfer file to ACCESS system	**FABRICATION-INFORMATION-FILE**
-149	STORK - Data Output Transfer file to ACCESS system	**ERECTION-INFORMATION-FILE**
-150	Traceability Output filename	**TRACEABILITY-FILE**
-151	STORK - Attribute storage file	**ATTRIBUTE-FILE**
-152	Text Font Definition Input filename	**FONT-INFORMATION-FILE**
-153	Bulk Materials Output filename	**BULK-MATERIAL-LIST**
-154	Spool Information Output filename	**SPOOL-INFORMATION-FILE**
-155	Site Weld Information Output filename	**SITE-WELD-INFORMATION-FILE**
-156	Pipeline Attributes Input filename	**PIPELINE-ATTRIBUTES-FILE**
-157	Heat Treatment/NDE Input filename	**HEATTREATMENT/NDE-FILE**
-158	Drawing Information Cross Reference Output filename	**DRAWING-CROSS-REF-FILE**
-159	Bending database file	**BENDING-DATABASE_FILE**
-160	Bending report file	**BENDING-REPORT-FILE**
-161	Ascii symbols file	**ASCII-SYMBOLS**
-162	Drawing report file	**DRAWING-REPORT-FILE**
-163	Site assembly file (append type)	**SITE-ASSEMBLY-FILE-APPEND**
-164	Site assembly file (overwrite type)	**SITE-ASSEMBLY-FILE-OVERWRITE**
-165	Pipe Cutting file	**PIPE-CUTTING-FILE**
-170	Spool Attribute 1	**SPOOL-ATTRIBUTE1**
-171	Spool Attribute 2	**SPOOL-ATTRIBUTE2**
-172	Spool Attribute 3	**SPOOL-ATTRIBUTE3**

-173	Spool Attribute 4	**SPOOL-ATTRIBUTE4**
-174	Spool Attribute 5	**SPOOL-ATTRIBUTE5**
-175	Spool Attribute 6	**SPOOL-ATTRIBUTE6**
-176	Spool Attribute 7	**SPOOL-ATTRIBUTE7**
-177	Spool Attribute 8	**SPOOL-ATTRIBUTE8**
-178	Spool Attribute 9	**SPOOL-ATTRIBUTE9**
-179	Spool Attribute 10	**SPOOL-ATTRIBUTE10**
-180	Weld Attribute 1	**WELD-ATTRIBUTE1**
-181	Weld Attribute 2	**WELD -ATTRIBUTE2**
-182	Weld Attribute 3	**WELD -ATTRIBUTE3**
-183	Weld Attribute 4	**WELD -ATTRIBUTE4**
-184	Weld Attribute 5	**WELD -ATTRIBUTE5**
-185	Weld Attribute 6	**WELD -ATTRIBUTE6**
-186	Weld Attribute 7	**WELD -ATTRIBUTE7**
-187	Weld Attribute 8	**WELD -ATTRIBUTE8**
-188	Weld Attribute 9	**WELD -ATTRIBUTE9**
-189	Weld Attribute 10	**WELD -ATTRIBUTE10**
-190	Component Attribute 1	**COMPONENT-ATTRIBUTE1**
-191	Component Attribute 2	**COMPONENT -ATTRIBUTE2**
-192	Component Attribute 3	**COMPONENT -ATTRIBUTE3**
-193	Component Attribute 4	**COMPONENT -ATTRIBUTE4**
-194	Component Attribute 5	**COMPONENT -ATTRIBUTE5**
-195	Component Attribute 6	**COMPONENT -ATTRIBUTE6**
-196	Component Attribute 7	**COMPONENT -ATTRIBUTE7**
-197	Component Attribute 8	**COMPONENT -ATTRIBUTE8**
-198	Component Attribute 9	**COMPONENT -ATTRIBUTE9**
-199	Component Attribute 10	**COMPONENT -ATTRIBUTE10**

	AText Records
-201	E
-202	N
-203	W
-204	S
-205	EL +
-206	EL -
-207	NS (set to ? to automatically determine the format used for outputting the nominal size message)
-208	CONN. TO
-209	CONT. ON
-210	F
-211	G
-212	B
-213	SPINDLE
-214	MM
-215	REDUCING FLANGE
-216	OFFSET
-217	MITRE
-218	LOBSTER
-219	REINFORCED
-220	LEFT LOOSE
-221	FFW
-222	FALL
-223	DEGREES (left blank)
-224	:
-225	% (left blank)
-226	GRAD
-227	PER M

-228	PER FT
-229	SCREWED END
-230	VENT (used in conjunction with -34 record)
-231	BEND
-232	SPEC
-233	C
-234	START
-235	COMMENCE
-236	S
-237	"
-238	'
-239	DRAIN (used in conjunction with -35 record)
-240	(used in conjunction with -32 record)
-241	(used in conjunction with -33 record)
-242	(used in conjunction with -36 record)
-243	(used with reducers IE - FLAT)
-244	UP
-245	DOWN
-246	NORTH
-247	SOUTH
-248	EAST
-249	WEST
-250	DATE
-251	PROJECT NO.
-252	BATCH REF
-253	PIPING SPEC
-254	ISS
-255	DRG
-256	OF
-257	SPL
-258	JAN

-259	FEB
-260	MAR
-261	APR
-262	MAY
-263	JUN
-264	JUL
-265	AUG
-266	SEP
-267	OCT
-268	NOV
-269	DEC
-270	THERMAL INSULATION SPEC
-271	TRACING SPEC
-272	PAINTING SPEC
-273	LG
-274	default is blank - used as delimeter for spool i.d.
-275	SWEPT TEE
-276	CONT. FROM
-277	ORIFICE FLANGE
-278	DIAL FACE
-279	L
-280	TAPPING
-281	TAIL
-282	WINDOW
-283	FLAT (used when reducer flat in skew)
-284	TEE BEND
-285	RATING FLANGE
-286	Default is blank - used for screwed end message on erection fittings)
-287	ORIENTATION DIRECTION
-288	PIPE
-289	MATL

-290	INSUL
-291	TRACE
-292	PAINT
-293	null - used for spec change -41 record
-294	null - used for spec change -42 record
-295	null - used for spec change -43 record
-296	null - used for spec change -44 record
-297	null - used for spec change -45 record
-298	TEE ELBOW
-299	COMDACE ITEM CODE DELIMETER
-300	FABRICATION MATERIALS
-301	PT
-302	NO
-303	COMPONENT DESCRIPTION
-304	N.S.
-305	ITEM CODE
-306	QTY
-307	PIPE
-308	FITTINGS
-309	FLANGES
-310	ERECTION MATERIALS
-311	GASKETS
-312	BOLTS
-313	VALVES / IN-LINE ITEMS
-314	INSTRUMENTS
-315	SUPPORTS
-316	PIPE SPOOLS
-317	PIPE NS
-318	CL LENGTH
-319	CUT PIPE LENGTHS
-320	PIECE

-321	NO
-322	CUT
-323	LENGTH
-324	REMARKS
-325	default is blank - used for spool separators
-326	PLD BEND
-327	LOOSE FLG
-328	FF WELD
-329	M
-330	INS
-331	MM
-332	PAGE
-333	PIPELINE REF
-334	S (used to signify special end flange)
-335	WITH SPECIAL RATING FLANGE(S) (SEE ISO)
-336	SYSTEM REF
-337	D BEND RADIUS
-338	BEND RADIUS
-339	MISCELLANEOUS COMPONENTS
-340	INDUCTION BEND ID -
-341	EQUIPMENT TRIM MATERIALS
-342	NOZZLE REF -
-343	CONTINUED
-344	END CONNECTOR
-345	AND
-346	GEARBOX ORIENTATION
-347	used for continuations on - material list
-348	used for continuations from - material list
-349	PP
-350	REDUCING ELBOW
-351	FABRICATED (PULLED) BEND

-352	WEIGHT
-353	KGS
-354	LBS
-355	TOTAL WEIGHT - THIS DRG
-356	U
-357	B
-358	W
-359	default is blank - used for bolt units
-360	FT
-361	FT-INS
-362	END$ONE
-363	END$TWO
-364	ITEM$CODE
-365	default is blank - used for part$no on cut list
-366	SQ.CUT
-367	BEVEL
-368	SCREWED
-369	SHAPED
-370	MITRED
-371	OFFSHORE MATERIALS
-372	REMARKS
-373	REM
-374	ANGLE
-375	WELDS
-376	FAB
-377	EREC
-378	OFF
-379	TOTAL FABRICATION WEIGHT
-380	TOTAL ERECTION WEIGHT
-381	TOTAL OFFSHORE WEIGHT
-382	TOTAL WEIGHT UNLISTED ITEMS

-383	* (missing weight character)
-384	TANGENT+
-385	CUT/WELD
-386	Default is blank (used for insulation length)
-387	Default is blank (used for heat tracing length)
-388	TANGENTIAL CONNECTION
-389	OFFSET CONNECTION
-390	FROM ? ORIGIN
-391	default is blank - used to show Weld/Connections that have not been adjusted to incorporate Gap/Shrinkage
-400	TRACED PIPE
-401	LAGGED PIPE
-402	PIPE SUPPORT
-403	COMPN JOINT
-404	SCREWED JOINT
-405	SOCKET WELD
-406	FIELD WELD
-407	SHOP WELD
-408	used for box at bottom of drawing eg. (pulled bend radius is 3x nominal pipe bore)
-409	used for box at bottom drawing eg. (all flanges 150p rating unless stated otherwise)
-410	[1] DENOTES PIPE SPOOL NO 1 DENOTES PARTS LIST NO
-411	SITE CONNECTION
-412	WELD|SHOP|WELD|WELDER|VISUAL|NDT|HARD|S.R|FAB.QA
-413	NO |/FLD|PROC| ID |ACCEPT|NO | NO | |ACCEPT
-414	S
-415	F
-416	O
-417	BW
-418	SW
-419	MW

-420	LUG
-421	SOF
-422	SOB
-423	LET
-450	B.O.P.
-451	TAPPING CONNECTION
-452	UNACCEPTABLE SPLIT
-453	MM-
-454	CONNECTION ORIENTATION
-455	(elevations at flange face IE ?$FLANGE FACE)
-456	SEE DETAIL ?
-457	MITRE ?
-458	Default is blank - used for metric bore units
-459	? THK
-460	BEAM$?
-461	COLUMN$?
-462	?$BUILDING CL
-463	CL EQUIPMENT$?
-464	CL PIPELINE$?
-465	?$FLOOR LEVEL
-466	?$WALL
-467	GRID LINE$?
-468	default is blank - used for user defined reference description
-469	REFERENCE POINT
-470	SUPPORT LOCATION
-471	LOCATION-POINT?
-472	NO.?
-473	OF
-474	ABOVE
-475	default is blank - used to trigger drawing identifiers in Spoolgen
-476	default is blank - used for drawing identifiers in Spoolgen

-477	CUT OUT ?
-478	J
-481	E
-482	N
-483	W
-484	S
-485	U
-486	D
-487	*** REFERENCE FLAT ***
-488	*** REFERENCE SPINDLE ***
-489	*** REFERENCE SUPPORT ***
-490	*** REFERENCE BRANCH ***
-491	*** REFERENCE WINDOW ***
-492	FLAT DIRECTION
-493	SPINDLE DIRECTION
-494	SUPPORT DIRECTION
-495	BRANCH DIRECTION
-496	WINDOW DIRECTION
-497	FLANGE ROTATION ?
-498	Default is blank - SITE WELD
-499	SHOP TEST WELD
-500	SHOP TEST
-501	Default is blank - OFFSHORE WELD
-502	SUPPORT
-503	SPOOL ID
-504	default is blank - used for ffw weld category
-507	RPD
-508	LF
-509	L4
-510	default is blank - used for part no / weld delimeter
-511	PAD

-512	TACK WELD
-513	TW
-514	REINFPAD
-515	REINFORCEMENT PAD FOR@
-516	TRN
-517	5 (used to indicate manual weld)
-518	1 (used to indicate automatic weld)
-519	EB (used in weld box)
-520	RL (used in weld box)
-521	FW
-522	Default is blank (reinforced set-on tee)
-523	Default is blank (reinforced angled set-on tee)
-524	Default is blank (angled seton tee)
-525	default is blank (half coupling weld)
-526	default is blank (reinforced tee / pad to main)
-527	Default is blank (reinforced tee / pad to branch)
-528	Defaul is blank (trunnion d2 type weld)
-529	default is blank (trunnion d4 type weld)
-530	default is blank (trunnion d5 type weld)
-531	default is blank (trunnion d6 type weld)
-532	default is blank (trunnion d7 type weld)
-533	FI
-534	RL
-535	SU
-536	VL
-537	default is blank (used for style 3/4 pipe quan units)
-538	default is blank (used for bolting data)
-539	.
-540	default is blank (used for alternative bolting ns)
-541	_N
-542	_S

-543	default is blank (used for special information note)
-544	default is blank (used for showing additional material)
-545	/ (used for additional material delimiter)

	User Defined Attribute Block	
Isogen Record	**Description**	**PCF Equivalent**
-600 *	Attributes -600 to -699 are for User Defined	**ATTRIBUTE0** to
to –699 *	attributes in Isogen	**ATTRIBUTE99**

	Minus 700 Series – TextPos	
Isogen Record	**Description**	**PCF Equivalent**
-700 *	North Arrow X-Y Position on isometric	Use a -700 record in the **POSITIONED-TEXT** file
-701	Spare	
-702 *	Drawing (Sheet) Number	Use a -702 record in the **POSITIONED-TEXT** file
-703 *	Number of Drawings (Sheets)	Use a -703 record in the **POSITIONED-TEXT** file
-704 *	Total Weight for a Drawing	
-705 *	Total Fabrication Weight	
-706 *	Total Erection Weight	
-707 *	Total Offshore Weight	
-708 *	Flange Part Number (Flat Spools)	
-709 *	Flange Rotation Angle (Flat Spools)	
-710 *	Total Weight Unlisted Items	
-711 *	Total Weight of Pipeline	
-712 *	Total Wet (Full) Weight of Pipeline	
-713 *	Total Insulation Weight for Pipeline	
-714 *	C of G Position of Dry (Empty) Pipeline	

-715 *	C of G Position of Dry Pipeline + Insulation	
-716 *	C of G Position of Wet (Full) Pipeline	
-717 *	C of G Position of Wet Pipeline + Insulation	
-718 *	Total Pipeline Fabrication Weight	
-719 *	Total Pipeline Erection Weight	
-720 *	Total Pipeline Offshore Weight	
-721 *	Zone 1 Identifier STORK	
-722 *	Zone 2 Identifier STORK	
-723 *	Zone 3 Identifier STORK	
-724 *	STORK Sequence Number	
-725 *	Spool Weight (Style 4 Material List)	
-726 *	Spool C of G Position (Style 4 Material List)	
-727 *	Weld Diameter Inches (Spools)	
-728 *	Spool C.L. Length	
-729 *	Spool Erection Factor	
-730 *	Pipeline Erection Factor	
-731 *	Weld Diameter Inches (Pipeline)	
-732 *	Location Point - to nearest Steelwork Stanchion	
-733 *	Location Point - above nearest Floor Level	
-734 *	Line Summary Information - Pipe nominal sizes	
-735 *	Line Summary Information - Pipe Centre Line Length	
-736 *	Line Summary Information - Pipe Insulation Length	
-737 *	Line Summary Information - Pipe Tracing Length	

	AText's -800 to -899	
	Used in Spoolgen Probing and FFI	
-800	BEND	
-801	ELBOW	
-802	OLET	
-803	TEE	
-804	CROSS	
-805	REDUCER	
-806	TEE REDUCER	
-807	REDUCING FLANGE	
-808	TEE BEND/ELBOW	
-809	ANGLE VALVE	
-810	3 WAY VALVE	
-811	4 WAY VALVE	
-812	INSTRUMENT	
-813	MISC COMPONENT	
-814	PIPE (TUBE	
-815	FIXED PIPE	
-816	PIPE BLOCK	
-817	FLANGE	
-818	LJSE FLANGE	
-819	BLIND FLANGE	
-820	CONNECTOR	
-821	BACKING NUT	
-822	CLAMP	
-823	MISC HYGENIC COMPONENT	
-824	CAP	
-825	COUPLING	

-826	UNION	
-827	VALVE	
-828	TRAP	
-829	VENT	
-830	FILTER	
-831	SUPPORT	
-832	INSTRUMENT TEE	
-833	WELD	
-834	NONE	
-835	Unused	
-836	Unused	
-837	Unused	
-838	Unused	
-839	Unused	
-840	Changed to Bend	
-841	Flange set to Loose	
-842	Detail Sketch ?	
-843	Support changed to Fabrication	
-844	Support changed to Erection	
-845	Support changed to Offshore	
-846	Tack Weld	
-847	Support Weld(s added	
-848	Automatic Weld	
-849	Shop Test	
-850	REDUCING-CONCENTRIC	
-851	REDUCING-ECCENTRIC	
-852	STUB/BACKING PAIR	
-853	SCREWED	
-854	SLIP-ON J TYPE	
-855	SLIP-ON	
-856	SOCKET-WELD	
-857	WELD-NECK	
-858	SLIP-ON ORIFICE	

-859	WELD-NECK ORIFICE	
-860	LAP-JOINT RING	
-861	LAP-JOINT STUB END	
-862	UNKNOWN	
-863	Material added	
-864	General Information Note - ?	
-865	Specific Information Note - ?	
-866	Weld deleted	
-867	Support Weld(s deleted	
-868	Spool Name deleted	
-869	Flow Arrow deleted	
-870	Message deleted	
-871	Detail Sketch deleted	
-872	Information Note deleted	
-873	Additional Material deleted	
-874	Loose Flange un-set	
-875	Location point added	
-876	Location point deleted	
-877	FLOOR/WALL PENETRATION	
-878	FLOW ARROW	
-879	INSULATION SYMBOL	
-880	MESSAGE	
-881	Drawing Identifier deleted	
-882	Default Start	
-883	Pipeline Start	
-884	Default Bypass Closure	
-885	Used as delimiter in FFISYS	
-886	Bypass Closure	
-887	Pipe Support Added	
-888	Pipe Support Deleted	
-890	Coupling Added	
-891	Coupling Deleted	
-899	Properties Changed	

	Alternative User Defined Attribute Block	
Isogen Record	**Description**	**PCF Equivalent**
-900 *	Records -900 to -999 are normally used for Fabricator defined Pipeline Attributes in Spoolgen	**ATTRIBUTE100** to **ATTRIBUTE199**
to –999 *	and for Pipeline Attributes and Heat / NDE attributes extracted from -156 and -157 files	
	Component Records	
Isogen Record	**Description**	**PCF Equivalent**
30/31	Bend or U Bend	**BEND**
35/36	1) Elbow 2) Reducing Elbow	**ELBOW** **ELBOW-REDUCING**
40/41/42	1) Olet 2) Instrument Tee	**OLET** **INSTRUMENT-TEE**
45/46/47	1) Tee 2) Tee Set On branch 3) Tee Stun In branch	**TEE** **TEE-SET-ON** **TEE-STUB**
50/51/52/53	1) Cross 2) Cross Set On branch 3) Cross Stub In branch	**CROSS** **CROSS-SET-ON** **CROSS-STUB**
55	1) Concentric Reducer 2) Eccentric Reducer	**REDUCER-CONCENTRIC** **REDUCER-ECCENTRIC**
60/61/62	1) Concentric Teed Reducer 2) Eccentric Teed Reducer	**REDUCER-CONCENTRIC-TEED** **REDUCER-ECCENTRIC-TEED**
65	1) Reducing Flange Concentric 2) Reducing Flange Eccentric	**FLANGE-REDUCING-CONCENTRIC** **FLANGE-REDUCING-ECCENTRIC**

70/71/72	1) Tee Bend 2) Tee Elbow	**BEND-TEED** **ELBOW-TEED**
75/76	Angle Valve	**VALVE-ANGLE**
80/81/82	3 Way Valve	**VALVE-3WAY**
85/86/87/88	4 Way Valve	**VALVE-4WAY**
90	Instrument Dial	**INSTRUMENT-DIAL**
90/93	1) Instrument Straight through 2) Instrument Angled 3) Instrument Offset 4) Instrument Return	**INSTRUMENT** **INSTRUMENT-ANGLE** **INSTRUMENT-OFFSET** **INSTRUMENT-RETURN**
90/91/93	3 Way Instrument	**INSTRUMENT-3WAY**
90/91/92/93	4 Way Instrument	**INSTRUMENT-4WAY**
95/96	1) Misc Component Straight through 2) Misc Component Angled 3) Misc Component Offset 4) Misc Component Return	**MISC-COMPONENT** **MISC-COMPONENT-ANGLE** **MISC-COMPONENT-OFFSET** **MISC-COMPONENT-RETURN** **MULTI-PORT-COMPONENT**
100	Pipe	**PIPE**
101	Fixed Length Pipe	**PIPE-FIXED**
102	Fixed Length Pipe Block	**PIPE-BLOCK-FIXED**
103	Variable Length Pipe Block	**PIPE-BLOCK-VARIABLE**
104	Gap component	**GAP**
105	Flange	**FLANGE**
106	1) Lap Joint Stub End 2) Lap Joint Stub Ring	**LAPJOINT-STUBEND** **LAPJOINT-RING**
107	Blind Flange	**FLANGE-BLIND**
110	Gasket	**GASKET**
111	Hygenic Connector	**CONNECTOR**
112	Hygenic Backing Nut	**NUT**
113	Hygenic Clamp	**CLAMP**
114	Hygenic Misc. Component	**MISC-HYGIENIC**
115	Bolt	**BOLT**
120	Weld	**WELD**

125	Cap	**CAP**
126	1) Coupling 2) Elbolet	**COUPLING** **ELBOLET**
127	Union	**UNION**
130	Valve - Straight or Reducing	**VALVE**
132/133	1) Trap - Straight through 2) Trap Angled 3) Trap Offset 4) Trap Return	**TRAP** **TRAP-ANGLE** **TRAP-OFFSET** **TRAP-RETURN**
134	Safety Disc / Vent	**SAFETY-DISC**
136/137	1) Filter Straight through 2) Filter Angled 3) Filter Offset 4) Filter Return	**FILTER** **FILTER-ANGLE** **FILTER-OFFSET** **FILTER-RETURN**
140	Instrument Balloon	**INSTRUMENT-BALLOON**
150	Pipe Support	**SUPPORT**

	Special Type Records	
Isogen Record	**Description**	**PCF Equivalent**
0	Additional Bore	
3	Text Positioning (TextPos) record	Data in **POSITIONED-TEXT** file
148	1) Drawing Split Point (148 record used together with a -38 record) 2) Spool Identifier positioning record (148 record used together with a -28 record)	**ISO-SPLIT-POINT** **CO-ORDS** *data* **SPOOL-IDENTIFIER** **CO-ORDS** *data* **TEXT**
149	**Location records** 1) Positioned Comment (148 record used together with a -37 record) **N.B.** Where a 149 record appears with an associated -70 to -75 type record then the following types of PCF commands are generated	**MESSAGE** **CO-ORDS** *data*
	149 & -70	**MESSAGE-SQUARE** **CO-ORDS** *data* **TEXT** *data*
	149 & -71	**MESSAGE-SQUARE** **CO-ORDS** *data* **TEXT** *data*
	149 & -72	**MESSAGE-ROUND** **CO-ORDS** *data* **TEXT** *data*

	149 & -73	**MESSAGE-TRIANGLE** **CO-ORDS** *data* **TEXT** *data*
	149 & -74	**MESSAGE-DIAMOND** **CO-ORDS** *data* **TEXT** *data*
	149 & -75	**MESSAGE-CIRCLE** **CO-ORDS** *data* **TEXT** *data*
	2) Location Point	**LOCATION-POINT** **CO-ORDS** *data* **SKEY LOPT**
	3) Floor Symbol	**FLOOR-SYMBOL** **CO-ORDS** *data* **SKEY data**
	4) Flow Arrow	**FLOW-ARROW** **CO-ORDS** *data* **FLOW** *data* **SKEY** *data*
	5) Insulation Symbol	**INSULATION-SYMBOL** **CO-ORDS** *data* **SKEY** *data*
	6) Reference Dimension	**REFERENCE-DIMENSION** **REFERENCE-POINT-LOCATION** **CO-ORDS** *data* **DIMENSIONED**
151	Reference Dimension - Primary (Record structure is 149 151 153)	**REFERENCE-DIMENSION-PRIME** **CO-ORDS** *data*
152	Reference Dimension - Skewed (Record structure is 149 152 153)	**REFERENCE-DIMENSION-SKEWED** **CO-ORDS** *data*

153	Reference Dimension - Referenced Item Centre Line orientation	**REFERENCED-ITEM** **CO-ORDS** *data* **CO-ORDS** *data* **ITEM-DIRECTION** *data*
160	Additional Material Item - Associated with a Pipeline component	**ADDITIONAL-ITEM** *(This entry must appear starting in column position 5 under a main component item)*
161	Additional Material Item - Independent	**ADDITIONAL-ITEM** *(This entry appears as a stand alone item)*
200	Tapped Branch (Tapping Point) Start	**TAP-CONNECTION**
201	Tapped Branch (Tapping Point) End	
300	Large Co-ordinate offset - Metric Units	**OFFSET-METRIC**
301	Large Co-ordinate offset - Imperial Units	**OFFSET-IMPERIAL**
501	Alternative Fitting Symbol - Symbol parameters	Skipped
502	Alternative Fitting Symbol - Symbol definition (Points and Lines)	Skipped
	Always handled as an Additional Item	**LUGG**
	Listed in a -31 connection record	**NOZZLE**
	Used on Fabricated Tees and Crosses	**REINFORCEMENT-PAD**
999	End of File Marker	

	IDF Component Structure	
Word No.	**Field Use**	
1	Component Type Identifier - e.g. 100 for PIPE	See Component Records section for details
2	Start Point Co-Ordinate - East / West	Value is in 100th MM integer numbers
3	Start Point Co-Ordinate - North / South	Value is in 100th MM integer numbers
4	Start Point Co-Ordinate - Elevation +/-	Value is in 100th MM integer numbers
5	End Point Co-Ordinate - East / West	Value is in 100th MM integer numbers
6	End Point Co-Ordinate - North / South	Value is in 100th MM integer numbers
7	End Point Co-Ordinate - Elevation +/-	Value is in 100th MM integer numbers
8	Pipe Bore	Value is in 1/16th's Inch for Inch bores or in MM's for Metric bores – e.g. 3" bore = 48 25 MM bore = 25
9	1) Item Code / Description Pointer 2) Reinforcement Pad Item Code on Reinforced Tees	1) Item Codes are held in a series of vertically arranged –20 records at the bottom of the IDF. The value here is a pointer to that section. The Material Description of an Item Code is held in the –21 record that immediately follows the –20 record. 2) The 4th 5th and 6th digit positions of this record, if present, are used for a pointer to the Reinforcement Pad Item Code on a Reinforced Tee component. 3) The 7th 8th and 9th digit positions of this record, if present, are used for a pointer to the Repeat Part Number of a component.
10	Component Weight	Value is held as a real or integer number and may be in LBS or KGS - depending on the setting in O.S. 41 (Held to the nearest 1/10th LB or KG) Tons or Tonnes can be represented by use of a decimal point (eg. 1.67)

11	Carries up to 5 items of information	1) Units position - Only used for Pipe to indicate the Pipe End condition. 1= Screwed end at start of pipe 2= Screwed end at end of pipe 3= Screwed end at both ends of pipe 2) Tens, Hundredth's and Thousands position - Only used for Pipe to calculate the Pipe Wastage amount. Values held here are 1/10 th's percentage Wastage amounts. e.g. 4%=40 12.5%=125 3) In the Ten Thousands position - Plant Area Identification Number in the range 1 to 9. 4) One Hundred Thousands position. – Used to indicate the pipework style. 0= Standard Pipework 1= Dotted Pipework, Undimensioned 2= Dotted Pipework, Dimensioned 5) In the Millions position – Used to control whether or not the component is to appear in the BOM and isometric, and if so, how. 0= Component Item Code to appear on the BOM with a Part Number on the isometric 1= Component not to appear on the BOM nor on the isometric 2= The Component Item Code to appear both on the BOM and on the isometric underneath the Part Number.
12	SKEY (Symbol Key)	Normally 2 or 4 characters, but can be blank.

13	Carries up to 4 items of mutually exclusive information for a component	1) ANGLE. Holds the Angle value of certain type of component – e.g. Bend, Elbow or Tee. The value held is in 1/100th's Degree. e.g. 45 degrees = 4500, 90 degrees = 9000 2) BOLT LENGTH. In 115 Bolt records - holds the Bolt Length either in whole MM's or 1/16th's Inch depending on the units in use e.g. 115 MM or 48 for 3" 3) FLANGE PROTRUSION LENGTH. Only set on certain types of 105 Flange records that have special welding on requirements. That is, those types where the Pipe protrudes through the Flange prior to welding. The value held must only be in whole MM's. 4) INDIVIDUAL TAPPING CO-ORDINATES ON /OFF. Applies only to 200 type Tapping Co-Ordinate records. Values may be – 0 = Output Tapping Co-Ordinates 1 = Suppress Tapping Co-Ordinates

14	Carries up to 5 items of information	1) Units position – Fab / Erect / Offshore classification 0= No classification 1= Fabrication Item 2= Erection Item 3= Offshore Item 2) Tens position – Fluid Flow 0 or blank = Fluid Flow in direction built 1= Fluid Flow opposite to direction built 3) Hundreds position – Primary Direction for the following – Valve Spindle, Flat Side on Eccentric Reducer, Instrument Dial Face, Sight Glass Window, Orifice Plate Tapping, Spectacle Plate Tail, Slip Plate Tail and Support 0 or blank = No Direction 1= North 2= South 3= East 4= West 5= Up 6= Down 4) Thousands position – Insulation / Tracing indication 0 or blank= No Tracing or Insulation 1= Insulated 2= Heat Traced 3= Insulated and Heat Traced 5) Ten Thousands position – Direction of the Offline Branch Leg on Flanged Tee Bends and Flanged Tee Elbows 0 or blank= No Direction set 1= Branch Leg in line with Main Line ‘In’ leg 2= Branch Leg in line with Main Line ‘Out’ leg