PART

PART DEFINITION CARDS

Repeat the following for each PART definition. The number of cards is type dependent, with 6 cards minimum, terminate each definition by an **END_PART** card.

CARD 1 Part Control Card

Columns	Item	Format	Name	*version/option*
1-8	Keyword **PART__/_**	A8		
9-16	Part identification number	I8	IDPRT	
17-24	Part type **BAR**: Bar elements (material types: 200, 201, 202, 203, 204, 205) **BEAM**: Beam elements (material types: 200, 201, 212, 213, 214) **SPRING**: 6-DOF Spring elements (material type: 220) **SPRGBM**: 6-DOF Spring-beam elements (material type: 223) **MBSPR**: 6-DOF Spring elements in MBSYS (material type: 220) **JOINT**: Penalty joint elements (material types: 221, 222) **KJOIN**: kinematic joint elements (material type: 230) **MBKJN**: kinematic joint elements in MBSYS (material type: 230) **SOLID**: Solid elements (All solid types except 61) **BSHEL**: Brick shell elements (material type: 61) **TSHEL**: Thick shell elements (material type: 161) **SHELL**: Shell elements (All shell types except 161) **MEMBR**: Membrane elements (material types: 150, 151) **TIED**: Node-Surface tied interface (material types: 301, 303, 304) **SLINK**: Surface link elements (material types: 301, 303)	A8	ATYPE	

PART

Columns	Item	Format	Name	version/option
	ELINK: Edge link elements (material types: 301, 303) **LLINK**: Line link elements (material type: 302) **PLINK**: Point link elements (material types: 223, 224 and 302) **SPHEL**: SPH elements (material types: 6, 7, 12, 14, 28) **TETRA**: Tetrahedral elements (All solid types available for TETRA except shock materials and material types 28, 30 and 51)			
25-32	Material identification number	I8	IMAT	

Notes:

- *Any 3-D element (**SOLID_/_**, **TETRA_/_**, **TETR4_/_**) can make a reference to a PART card with either the qualifier ATYPE=**SOLID**, or the qualifier ATYPE=**TETRA**.*
- *PLINK with Material 223 or 224 (Version 2005), corresponds to a Spring beam Plink. See the* ***Mesh Independent Multi-Layer Spotwelds PLINK_/_*** *subsection of the Solver Notes Manual for more information.*

CARD 1a to Define Reference to MATER card by NAME (only for IMAT=0)

Columns	Item	Format	Name	version/option
1-4	Keyword **RMAT**	A4		
5-80	Name identification NAME	A76	REFNAM	

Note:

- *Instead of a material number a material name could be used to reference to a MATER card. Material names which are used as references must be unique. If this is not true, the solver will issue an error message and stop.*

CARD 2 to Define Part Title

Columns	Item	Format	Name	version/option
1-4	Keyword **NAME**	A4		
5-80	Title	A76	TITLE	

CARD 3 General Numerical Parameters Card

Columns	Item	Format	Name	version/option
1-10	Time step for element elimination. Currently not implemented for material type 101, 110, 121 and 126.	E10.0	DTELIM	

Units

- *The real variable provided on Card 3 has the following units.*

Variable	DTELIM
Units	time

CARD 4 General Option Parameters Card

Columns	Item	Format	Name	version/option
1-10	Thickness for Contact (type 33, 34, 36)	E10.0	TCONT	
11-20	Initial equivalent plastic strain (For elastic-plastic shell materials 102,103, 105, 106, 115, 116, 118, and 171 only)	E10.0	EPSINI	

Units

- *The real variable provided on Card 4 has the following units.*

Variable	TCONT	EPSINI
Units	length	none

Notes:

- *See the Solver Notes Manual (CONSTRAINT SECTION) for details on parameter TCONT.*

CARD to be Added at the End of Each Part Definition

Columns	Item	Format	Name	version/option
1-8	Keyword **END_PART**	A8		

The above card is mandatory for future extension.

PART

Type BAR Elements (1 Card)

CARD 5

Columns	Item	Format	Name	version/option
1-10	Cross sectional area	E10.0	A	

Units

- *The real variable provided on Card 5 has the following units.*

Variable	A
Units	$length^2$

Type BEAM Elements (5 Cards + Optional Cards)

CARD 5

Columns	Item	Format	Name	version/option
1-10	Cross sectional area (not needed for material type 213 when IDSEC≠0)	E10.0	A	
11-20	Shear effective area = 0.0: no beam transverse shear deformation or: Shear factor (material type 213, default=5/6)	E10.0	A_s	
21-30	Bending moment of inertia around s-axis (must be non-zero, not needed for material 213)	E10.0	I_s	
31-40	Bending moment of inertia around t-axis (must be non-zero, not needed for material 213)	E10.0	I_t	
41-50	Polar moment of inertia around r-axis (must be non-zero)	E10.0	I_r	
51-55	Blank	5X		
56-60	Flag for tapered beam (only for material type 213) = 1: tapered beam = 0: constant section beam (default)	I5	IPTR	

Units

- *The real variables and functions provided on Card 5 have the following units.*

Variable	A, A_S	I_s, I_t, I_r,	ICROSS,IPTR
Units	$length^2$	$length^4$	none

Note:

- *If the flag for tapered beam is defined in the* **Beam Element** *sub-section (ELEMENTS SECTION), the definition in the PART card is ignored.*

CARD 6 to Define Eccentricity and End Release Parameters (Leave Blank if not Applicable)

Columns	Item	Format	Name	version/option
	For eccentric beams (not available for material type 214):			
1-10	Mixed moment of inertia (not needed for material 213)	E10.0	I_{st}	
11-20	s-coordinate of beam section center of gravity	E10.0	s_G	
21-30	t-coordinate of beam section center of gravity	E10.0	t_G	
	End release codes for beam nodes 1 (or 2)			
31 (or 41)	Blank	1X		
32 (or 42)	Blank	1X		
33 (or 43)	Blank	1X		
34 (or 44)	Blank	1X		
35 (or 45)	Local R-axis force release code at end 1 (or 2) (axial force) = 0: fixed = 1: released	I1		
36 (or 46)	Local S-axis force release code at end 1 (or 2) (shear force) = 0: fixed = 1: released	I1		
37 (or 47)	Local T-axis force release code at end 1 (or 2) (shear force) = 0: fixed = 1: released	I1		
38 (or 48)	Local R-axis moment release code at end 1 (or 2) (torsion) = 0: fixed = 1: released	I1		
39 (or 49)	Local S-axis moment release code at end 1 (or 2) (bending) = 0: fixed = 1: released	I1		
40 (or 50)	Local T-axis moment release code at end 1 (or 2) (bending) = 0: fixed = 1: released	I1		

PART

Units

· *The real variables provided on Card 6 have the following units.*

Variable	I_{st}	s_G, t_G
Units	$length^4$	length

Note:

· *If End Release Parameters are defined in the* ***Beam Element*** *sub-section (ELEMENTS SECTION), the definitions in the PART card is ignored.*

CARD 7 to Define Tapered Beam Section at Node 1 (Leave Blank If IPTR=0)

Columns	Item	Format	Name	version/option
1-10	Relative multiplier of first dimension of section	E10.0	α_1	
11-20	Relative multiplier of second dimension of section	E10.0	β_1	
21-31	Relative multiplier of third dimension of section	E10.0	γ_1	
31-40	Relative multiplier for s-eccentricity	E10.0	ξ_1	
41-50	Relative multiplier for t-eccentricity	E10.0	ν_1	

Units

· *The variables provided on Card 7 are non-dimensional.*

Note:

· *If the parameters to define tapered beam section are given in the Beam Element sub-section (ELEMENTS SECTION), the definition in PART card is ignored.*

CARD 8 to Define Tapered Beam Section at Node 2 (Leave Blank If IPTR=0)

Columns	Item	Format	Name	version/option
1-10	Relative multiplier of first dimension of section	E10.0	α_2	
11-20	Relative multiplier of second dimension of section	E10.0	β_2	
21-31	Relative multiplier of third dimension of section	E10.0	γ_2	
31-40	Relative multiplier for s-eccentricity	E10.0	ξ_2	
41-50	Relative multiplier for t-eccentricity	E10.0	ν_2	

Units

· *The variables provided on Card 8 are non-dimensional.*

Note:

· *If the parameters to define tapered beam section are given in the Beam Element sub-section (ELEMENTS SECTION), the definition in PART card is ignored.*

CARD 9 to Define Cross Section (Leave blank for material types other than 213)

Columns	Item	Format	Name	version/option
1-5	Cross section description flag = 0: cross section to be defined by the user via integration points = 1: thin-walled circular section = 2: solid circular section = 3: thin-walled rectangular section = 4: solid rectangular section	I5	`IDSEC`	
6-10	Number of integration points in cross section (≤ 24) (see notes) (for `IDSEC`>0, default is 8)	I5	`NIPS`	
11-20	Cross section dimension parameter	E10.0	a *	
21-30	Cross section dimension parameter	E10.0	b *	
31-40	Cross section dimension parameter	E10.0	c *	

* *required only for cross section description `IDSEC>0`*
see the Solver Notes Manual for further information

The following `NIPS` cards are needed only for material type 213 and cross section description if `IDSEC`=0 on previous card.

Units

· *The real variables and functions provided on Card 9 have the following units.*

Variable	`IDSEC,NIPS`	a, b, c
Units	none	length

CARD 10, 11, ... NIPS+9 (Optional)

Columns	Item	Format	Name	version/option
1-10	Local coordinate s_i for integration point i	E10.0	s_i	
11-20	Local coordinate t_i for integration point i	E10.0	t_i	
21-30	Weighting factor (=A_i/A) for integration point i	E10.0	w_i	

Units

· *The real variables provided on Card 10 to `NIPS` have the following units.*

Variable	s_i, t_i	w_i
Units	length	none

PART

Types SPRING, MBSPR, JOINT, KJOIN, MBKJN, and SPRGBM Elements (1 Card)

CARD 5 Blank

Types SOLID and TETRA Elements (2 Cards)

CARD 5 to Define Orientation For Orthotropy Direction 1 (only for Material Types 30, 31, 41, 42 Leave Blank in other Case)

Columns	Item	Format	Name	version/option
1-5	Orthotropic axis definition flag = 0: orthotropic definition via a vector in global coordinate system = 1: orthotropic definition in local element frame	I5	IORT	
6-10	Blank	5X		
11-20	X-component (IORT= 0, 1) of orientation axis	E10.0	XDIR	
21-30	Y-component (IORT= 0, 1) of orientation axis	E10.0	YDIR	
31-40	Z-component (IORT= 0, 1) of orientation axis	E10.0	ZDIR	

CARD 6 to Define Orientation For Orthotropy Direction 2 (only for Material Types 30, 31, 41, 42 Leave Blank in other Case)

Columns	Item	Format	Name	version/option
1-5	Orthotropic axis definition flag = 0: orthotropic definition via a vector in global coordinate system = 1: orthotropic definition in local element frame	I5	IORT	
6-10	Blank	5X		
11-20	X-component (IORT= 0, 1) of orientation axis	E10.0	XDIR	
21-30	Y-component (IORT= 0, 1) of orientation axis	E10.0	YDIR	
31-40	Z-component (IORT= 0, 1) of orientation axis	E10.0	ZDIR	

Units

- *The real variables and functions provided on Cards 5 and 6 above, have the following units.*

Variable	IORT	XDIR,YDIR,ZDIR
Units	none	length

Type BSHEL Elements (1 Card)

CARD 5 Blank

Type TSHEL Elements (1 Card)

CARD 5

Columns	Item	Format	Name	version/option
1-10	Thickness	E10.0	h	*shock/*

Units

· *The real variable provided on Card 5 has the following units.*

Variable	h
Units	length

Note:

· *If the thickness is defined in the Thick Shell Element sub-section (ELEMENTS SECTION), the thickness definition in the PART card is ignored.*

Type SHELL Elements (2 Cards)

CARD 5

Columns	Item	Format	Name	version/option
1-10	Thickness	E10.0	h	
11-15	Number of integration points through the thickness (must be greater than or equal to 1; default value = 3)	I5	NINT	

Units

· The real variables provided on Card 5 have the following units.

Variable	h	NINT
Units	length	none

Note:

· *If the thickness and number of integration points are defined in the Thin Shell Element sub- section (ELEMENTS SECTION), their definition in the PART card is ignored.*

CARD 6 to Define Orthotropy Orientation for Material Types 107/108/109/117/118/128/130/131/132/140 (Leave Blank for Others)

Columns	Item	Format	Name	version/option
1-5	Orthotropic axis definition flag = 0: orthotropic definition via a vector in global coordinate system = 1: orthotropic definition in local element frame with or without offset angle	I5	IORT	
6-10	Blank	5X		
11-20	X-component (IORT= 0, 1) of orientation axis	E10.0	XDIR	
21-30	Y-component (IORT= 0, 1) of orientation axis	E10.0	YDIR	
31-40	Z-component (IORT= 0) of orientation axis	E10.0	ZDIR	
41-50	Offset angle in degrees (IORT= 1)	E10.0	α	

PART

Units

- The real variables and functions provided on Card 6, have the following units.

Variable	`IORT`	`XDIR,YDIR,ZDIR`	α
Units	none	length	angle

angle in degrees

Notes for orthotropy orientation:

- *There are two ways to define orthotropy orientation :*
  - `IORT` *given in CARD 6 is equal to 0 : The orthotropy orientation is given in the global coordinate system via a vector **V** (VX,VY,VZ). The projection **V'** of vector **V** into the element tangent plane at its origin defines the orthotropy orientation, see Figure (i).*

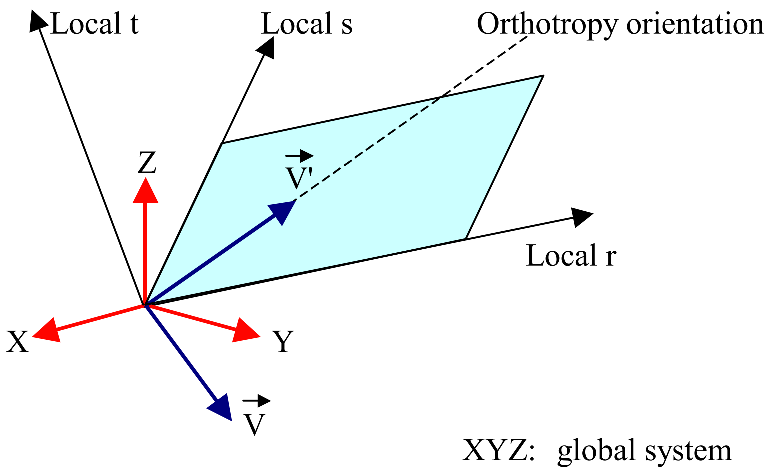

Figure (i): Orthotropy orientation for shell, IORT = 0

  - `IORT` *given in CARD 6 is set equal to 1. The orthotropy orientation is given in the local coordinate system via a vector **V**(VX,VY) with or without an offset angle α given in CARD 6. A rotation of vector **V** by the offset angle α around element normal direction with respect to the element origin defines the orthotropy orientation, see Figure (ii).*

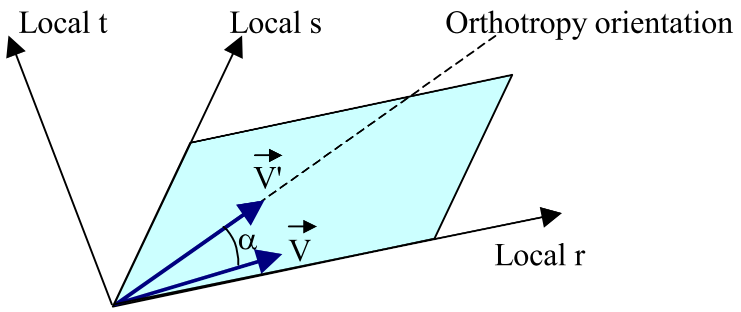

Figure (ii): Orthotropy orientation for shell, IORT = 1

- *For material 130/131/132, the orientation definition corresponds to the reference ply orthotropy. Each ply orientation will be computed from a rotation of this reference orthotropy by an angle given in the Composite Ply Data Base Identification card in material type 130/131/132 definition cards.*
- *For material 140, the orientation definition corresponds to the reference direction orthotropy. Orthotropy for directions 1 and 2 will be computed from a rotation of this reference orthotropy by an angle given in the CARD 4 and an angle given in the CARD 5 of material type 140 definition cards*

Type MEMBR Elements (3 Cards)

CARD 5

Columns	Item	Format	Name	*version/option*
1-10	Thickness	E10.0	h	

Units

- *The real variable provided on Card 5 has the following units.*

Variable	h
Units	length

CARD 6 to Define First Fibre Orientation

Columns	Item	Format	Name	*version/option*
1-5	Orthotropic axis definition flag = 0: orthotropic definition via a vector in global coordinate system (default V-vector is global X-axis, T-vector is global Z-axis) = 1: orthotropic definition in local element frame with or without offset angle (No default is assumed)	I5	IORT	
6-10	Blank	5X		
11-20	X-component (IORT= 0, 1) of orientation axis	E10.0	VX*	
21-30	Y-component (IORT= 0, 1) of orientation axis	E10.0	VY*	
31-40	Z-component (IORT= 0) of orientation axis	E10.0	VZ*	
41-50	Offset angle in degrees (IORT= 0, 1)	E10.0	α	
	In case of IORT=0 and $\alpha \neq 0$, define revolution axis :			
51-60	X-component (IORT= 0) of revolution axis	E10.0	TX**	
61-70	Y-component (IORT= 0) of revolution axis	E10.0	TY**	
71-80	X-component (IORT= 0) of revolution axis	E10.0	TZ**	

PART

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CARD 7 to Define Second Fibre Orientation

Columns	Item	Format	Name	version/option
1-5	Orthotropic axis definition flag = 0: orthotropic definition via a vector in global coordinate system (default V-vector is global X-axis, T-vector is global Z-axis) = 1: orthotropic definition in local element frame with or without offset angle (No default is assumed)	I5	IORT	
6-10	Blank	5X		
11-20	X-component (IORT= 0, 1) of orientation axis	E10.0	VX*	
21-30	Y-component (IORT= 0, 1) of orientation axis	E10.0	VY*	
31-40	Z-component (IORT= 0) of orientation axis	E10.0	VZ*	
41-50	Offset angle in degrees (IORT= 0, 1)	E10.0	α	
	In case of IORT=0 and $\alpha \neq 0$, define revolution axis :			
51-60	X-component (IORT= 0) of revolution axis	E10.0	TX**	
61-70	Y-component (IORT= 0) of revolution axis	E10.0	TY**	
71-80	X-component (IORT= 0) of revolution axis	E10.0	TZ**	

* *default projection vector is global X axis in case of IORT=0*

** *default revolution vector is global Z axis (IORT=0 only)*

Units

- The real variables and functions provided on Cards 6 and 7 above, have the following units.

Variable	IORT	VX,VY,VZ,TX,TY,TZ	α
Units	none	length	angle

angle in degrees

Notes on fibers orientation:

- *There are three ways to define each fiber orientation :*
  - *In the membrane element definition section : if the local fiber angles β1 and β2 are specified element by element, the definition in the PART cards is automatically ignored. If no angle is defined in the membrane element definition section, one of the following definitions will be used to define each fiber orientation.*
  - *If `IORT` given in CARD 6, is set equal to 0, the fiber direction is given in the global coordinate system via a vector **V** (VX,VY,VZ), an offset angle α and a vector **T** (TX,TY,TZ) given in CARD 6. If the offset angle is equal to 0, **T** is not needed. Vector **V'** is the projection of vector **V** into the element tangent plane. Vector **T'** is the projection of vector **T** onto the element normal direction (if needed). The rotation of vector **V'** by the offset angle α around the direction given by **T'** with respect to the element origin defines the fiber orientation, see Figure (iii).*
    *If vector **V** is not specified, **V** is assumed to point in the direction of the global X axis. If vector **T** is not specified, **T** is assumed to point in the direction of the global Z axis.*

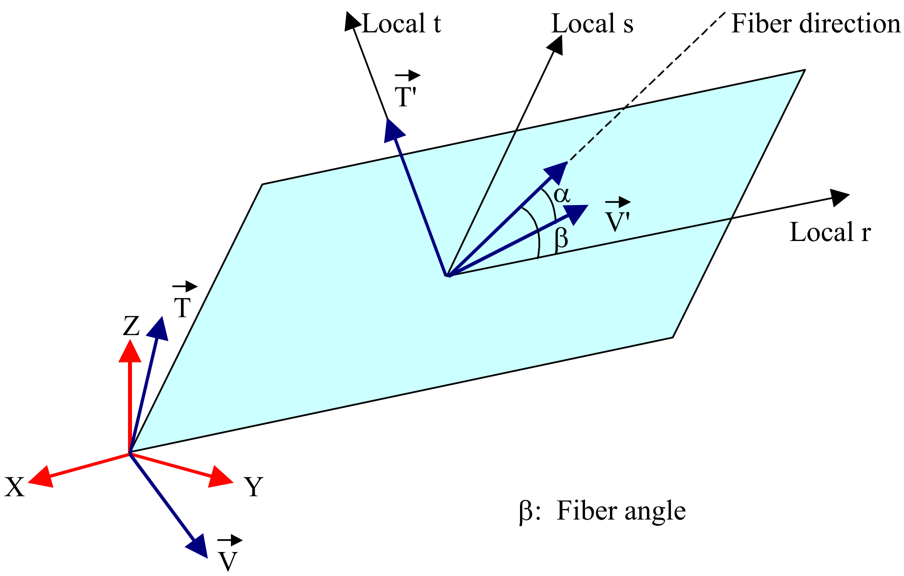

Figure (iii): Fiber direction for membrane, IORT = 0

  - *If `IORT` given in CARD 6, is set equal to 1, the fiber direction is given in the local element frame via a vector **V** (VX,VY), with or without offset angle α. The rotation of vector **V** by the offset angle α around element normal direction with respect to the element origin defines the fiber orientation, see Figure (iv).*

PART

PART

- *In that case, no default is assumed for vector **V** definition: at least one orientation should be given for fiber 1 or for fiber 2: If a fiber orientation is given for only one layer, the other layer is assumed to be perpendicular.*
- *If the flag for improved element stability for initially orthogonal fibers,* `IFLA90`, *is given in material type 150 definition cards (CARD 3), the first fiber orientation should be given.*

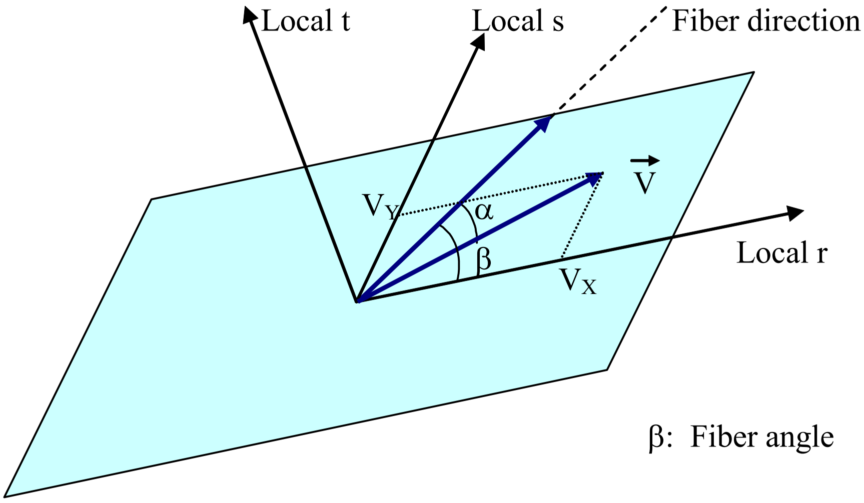

Figure (iv): Fiber direction for membrane, IORT = 1

Types SLINK Elements and TIED Interface (1 Card if INEXT=0, 2 Cards if INEXT=1)

CARD 5

Columns	Item	Format	Name	version/option
1-10	Link search distance	E10.0	`RDIST`	
11-70	Blank	60X		
71-80	Flag for orthotropic axes definition (for TIED interface only) =0 : no orthotropic axis are defined =1: orthotropic axis are defined	I10	`INEXT`	*v2006*

Units

· *The real variable provided on Card 5 has the following units.*

Variable	`RDIST`
Units	length

PART

Type TIED Interface (if INEXT = 1)

CARD 6 Orthotropic axes in master segment, for Material Type 304 (Blank for Others)

CARD 6

Columns	Item	Format	Name	version/option
1-5	Orthotropic axis definition flag = 0: orthotropic definition via a vector in global coordinate system = 1: orthotropic definition in local master segment frame	I5	`IORT`	*v2006*
6-10	Blank	5X		*v2006*
11-20	X-component (`IORT`= 0, 1) of orientation axis	E10.0	`XDIR`	
21-30	Y-component (`IORT`= 0, 1) of orientation axis	E10.0	`YDIR`	*v2006*
31-40	Z-component (`IORT`= 0) of orientation axis	E10.0	`ZDIR`	*v2006*
41-50	Offset angle in degrees (`IORT`= 0,1) (default value =0.)	E10.0	α	*v2006*

Units

- *The real variable provided on Card 6 has the following units.*

Variable	`XDIR,YDIR,ZDIR`	α, `IORT`
Units	length	none

Notes for orthotropy orientation:

- *There are two ways to define orthotropic axes:*
  - *`IORT` is equal to 0 (CARD 6) : The orthotropy axis is given in the global coordinate system via a vector **V** (VX,VY,VZ).*

    *The projection **V'** of vector **V** into the master segment tangent plane at its origin defines the orthotropic orientation, see Figure (v).*

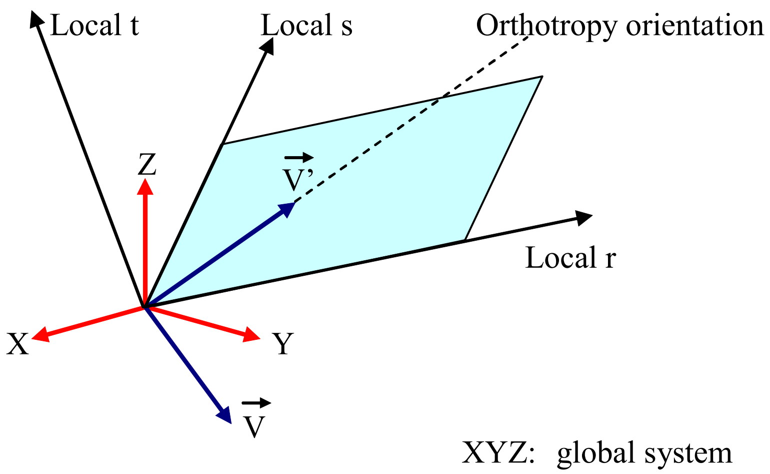

Figure (v): Orthotropy orientation for shell, IORT = 0

- *IORT is equal to 1 (CARD 6): The orthotropic orientation is given in the local coordinate system via a vector **V'**(VX,VY)*
- *For IORT =0 and IORT = 1, an offset angle α is given in CARD 6. **T** is obtained by a rotation of vector **V'** by the offset angle α around the master segment normal direction with respect to the element origin. This defines the orthotropic orientation, see Figure (vi).*
- *Angle α default value is zero*

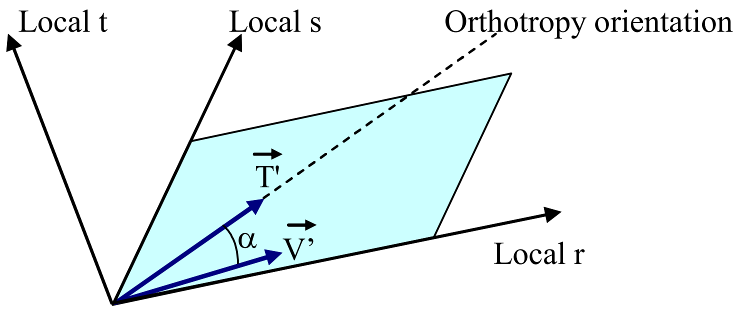

Figure (vi): Orthotropy orientation for shell, IORT = 1

Types ELINK Elements (1 Card)

CARD 5

Columns	Item	Format	Name	version/option
1-10	Link search distance	E10.0	RDIST	
11-20	Sharp edge detection angle Default = 60°	E10.0	α	

Units

- *The real variable provided on Card 5 has the following units.*

Variable	RDIST	α
Units	length	angle (°)

Type LLINK Elements (1 Card)

CARD 5

Columns	Item	Format	Name	version/option
1-10	Link search radius	E10.0	RSEAR	
11-20	Distance for connection point generation = 0.0 :default set to average segment size of the finest mesh	E10.0	DISPW	
21-30	Width for new connection points generation	E10.0	WIDTH	
31-40	Number of additional connection points	I10	NGWDTH	

Units

· The real variables provided on Card 5 has the following units.

Variable	RSEAR,DISPW,WIDTH	NGWDTH
Units	length	none

Type PLINK Elements (1 Card)

CARD 5

Columns	Item	Format	Name	*version/option*
1-10	Link search radius	E10.0	RSEAR	
11-20	Number of layers	I10	NLAYR	
21-30	User defined maximal length of spotweld elements (if the length of a spotweld is longer then SPWLG, a warning message will be given in the listing file)	E10.0	SPWLG	
31-40	Number of additional spotwelds for Multi-PLINK generated on radius: 3 ≤ NGESP ≤ 8 (=0 : Standard PLINK) Only for material 302	I10	NGESP	
41-50	Radius to place multi-plink spotwelds	E10.0	SPOTRA	
51-60	Angle criterion (in degrees) for segment removal in multi-plink (0≤ THETA ≤ 90), defaulted to 5.	E10.0	THETA	
61-70	Bending correction of radius = 0: Axial displacement due of Bending deformation of the radius = 1: No axial displacement due of Bending deformation (only for Spring beam plink with material 223)	I10.0	IRADBEN	

Units

· *The real variables provided on Card 5 has the following units.*

Variable	RSEAR,SPWLG,SPOTRA	NLAYR,NGESP	THETA
Units	length	none	angle (°)

PART

PART

Notes for material models available for links:

	301	302	303	304	223	224
TIED	X		X	X		
SLINK	X					
ELINK	X					
LLINK		X				
PLINK		X			X	X
OLINK (stamp)		X				

X: material available for option.

Type SPHEL Elements (2 Cards or more)

CARD 5

Columns	Item	Format	Name	version/option
1-10	Particle 'smoothing length to radius' ratio (no default allowed ; recommended value range = 2.0 - 2.5)	E10.0	RATIO	
11-20	Minimum smoothing length (default is 0.0)	E10.0	HMIN	
21-30	Maximum smoothing length	E10.0	HMAX	
31-40	Anti-Crossing force parameter (=0: default is 'disabled')	E10.0	ETA	
41-45	Free surface correction option (=0 : default is inactive)	I5	INORM	
46-50	Number of parts interfaced with this part	I5	NXPAIR	
51-60	First parameter for the M-G art. Viscosity	E10.0	ALPHA	
61-70	Second parameter for the M-G art. Viscosity	E10.0	BETA	
71-75	Monaghan stability option (=0 : default is inactive; otherwise default parameters will be used)	I5	NMON	

When NXPAIR is positive, the corresponding number of materials with which the current material has the special SPH sliding option must be provided in the following card(s). The SPH slideline concept excludes interaction between two disjoint parts when the parts are not compressed to each other.

Units

· *The real variables and functions provided on Card 5, have the following units.*

Variable	RATIO,ETA,NXPAIR, ALPHA, BETA	HMIN,HMAX
Units	none	length

Repeat the following card so as to define all NXPAIR interaction pairs.

CARD 6, 7, ... 5+NXPAIR to Define 'tension-free' Interaction Parts

Columns	Item	Format	Name	version/option
1-10	Part number	I10	IPART	
11-20	Minimum smoothing length = 0 : default is picked up. Default is 1.0 = 1.0 : interaction starts when the mean of the radii of the2 interacting particles is reached >1.0 : the multiplier is applied on the default value 0.0<FAC<1.0 : such values are rejected <0 : the standard interaction distance (the smoothing length) is used	E10.0	FAC	

Units

· *The real variables and functions provided on Card 6 are non-dimensional.*

PART