



ACE Structural Engineering Applications LLC

ACE FrameWorks Vessel Circular Platform Documentation

Mar 15, 2013

Vessel Circular Platform (ACE_CP. MA)

(Current Versions - FWP 3.1.x.x/3.2.x.x rel 2.1.9 & FWP 7.0.x.x rel 7.1.9 & FWP 7.1/7.2/7.3 rel 6.1.9 & FWP 8.0.x.x rel 8.1.9 & FWP 9.0.x.x rel 9.1.9 & FWP 10.0.x.x rel 10.1.9 & FWP 11.0.x.x rel 11.1.9 & FWP 12.0.x.x rel 12.1.9)

The vessel circular platform program facilitates the placement of circular platforms for vertical vessels. The

platform may form a complete circle around the vessel or a partial circle with defined start and end angles. For partial circular platforms, a ladder may be specified at the start and/or end of the platform. If a ladder is specified, a special end landing is provided and the actual end of the platform is computed considering a specified ladder offset value. The platform may have handrails of either pipe or angles. The handrail may consist of a single rail, two rails or three rails. The properties for all handrail components (profile, class, grade, named group) may be different. The handrail posts may be evenly spaced or the posts may be positioned on the radial supports. If a ladder is specified, rails are omitted at the ladder end(s). Handrail may optionally be omitted completely or at start and/or end. An option to place an interference envelope in handrail areas is available. The platform utilizes an angle "L" section as both the curved girder support and the toe plate. If a ladder is specified, the end angle is turned down. Six methods are provided for placement of the radial support members. In addition, an option is given to adjust any or all radial support members prior to placement. Grating (solid FWP slab element) is placed on the platform. Thickness options, grade, material, class and named group of the grating may be specified.

The utility allows either single or multiple platform placement. The vessel circular platform application also supports an immediate undo option after placement. Platform coordinates are specified as the platform center point, which is coincident with the vessel center point. The coordinates may be keyed in to a dialog keyin box or the "Last Data Point" technique may be utilized. This technique allows the values of the last datapoint to be put into the dialog keyin box.

The utility has internal defaults for platform, handrail & grating section sizes, types, classes, named groups and grades. Platform and handrail dimensions also have internal default values. In addition all input parameters shown in the dialog box shown above have default values. The defaults may be overridden with user defined defaults by using a definition file. The definition file is discussed in detail in later sections of this document.

For a given circular platform, all components are given the same name by concatenating the FWP ID to a prefix. The default prefix is CIRPLATF, however a different prefix may be specified in the definition file. Other naming options include 1) a constant specified name for all circular platforms, 2) dynamic naming where the circular platform name with or without FWP_ID appended is defined at placement time or 3) FrameWorks normal naming for individual components (FWP autoname). (see definition file section for more naming details)

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Vessel Circular Platform Variables and Options

The Vessel Circular Platform application, ACE_CP.MA, has been designed to allow great flexibility (i.e. many options) in the placement of platforms. This FrameWorks Plus FPL application is limited to single or multiple platforms and allows the following interactive changes on the primary dialog box:

- Option button for Partial or Full Circular Platform
- Option button for Platform with or without Ladder at Start & End of Partial Circular Platform
- Keyin fields for Ladder or Platform Start & End Angle Values for Partial Circular Platform
- Keyin field for TOS
- Keyin field for Radial Support inner and outer extension
- Option button for handrail placement (Omit None, Omit Start, Omit End, Omit Start & End, Omit All)
- Option button to select from 6 radial support placement techniques
- 1 to 3 keyin fields to define radial support placement
- Keyin field for Radial Section Profile (not available if WID option utilized – see page 16)
- Toggle field for interactive support review option
- Option button for single or multiple platform placement
- “Last Datapoint” button to specify North & East coordinates
- Keyin fields for North & East coordinates (also number & spacing for multiple)
- Toggle for Handrail position (on supports or evenly spaced)
- Toggle for HR Interference Envelope
- Option button to select grating thickness
- Button to Place Platform or to Cancel

The following parameters may be defined in the definitions file (note that all interactive definition variables may also be defined in the definitions file and are not listed below):

- Radial Support grade, class, named group & type
- Optional width variables for Alt Radial Section Profile & Intermediate Support – (see WID page 16)
- Optional alternate width dependent Radial Section Profile, grade, class & type – (see SU2 page 16)
- Optional width dependent Intermediate Support Profile, grade, class & type – (see IS2 page 16)
- Toe plate section, grade, class, named group & type
- HR post section, grade, class, named group & type
- HR top rail section, grade, class, named group & type
- HR mid rail(s) section, grade, class, named group & type
- Grating grade, class, material and named group
- HR Post maximum spacing
- HR rail top, mid rail, & third rail heights
- Radial Support CP & CP alignment option
- Default HR option at startup
- Specification of thickness values for grating option button
- Grating Edge Clearance
- Ladder Offset Distance
- Method of Naming Platform Components
- Envelope Class, Grade, Named Group & Material
- Height of HR access envelope
- Startup value for all primary option buttons
- Startup option for all toggle options

Many of the above listed options are shown graphically in the following illustrations. Subsequently, a sample definitions file is shown with expanded explanation.

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Vessel Circular Platform – Basic Operation & Notes

Placement of a vessel circular platform is a relatively simple manner once all the options for platform, radial support, handrail and grating are understood. The ensuing section detail important aspects of this application.

Angle Orientation Notes

All angles are specified as industry vessel standard angles as opposed to MicroStation right hand rule angles. Industry vessel standard angles are 0 degrees for due North. All angles must be specified from 0 degrees to 360 degrees. Angles are positive clockwise. Earlier versions of the Vessel Circular Platform application (versions 2.0.x) utilized MicroStation angle orientation. A platform start position is specified by the start (first) angle and the end position is specified by the end (second) angle. For instance the platform shown on the dialog box on the first page would run from a start ladder position of 90 degrees and an end non-ladder position of 220 degrees. Of course a platform could run from angles such as a start of 330 degrees and an end of 65 degrees.

360 Degree Vessel Circular Platforms

A 360 degree platform is both the simplest and rarest. A 360 degree platform can not have a ladder. The platform forms a complete donut, which is supported by at least 3 radial supports. Figure 3 is a hline view of a 360 degree platform.

Partial Platforms Without Ladders

A partial platform without a ladder is a platform whose ends match radial lines extending from the vessel center line to the platform start and end locations (angles). The start and end angle for both the interior & exterior angle toe plates is the same at each end for both the interior and exterior. The partial platform is supported by a minimum of 2 radial supports. Figure 1 illustrates a partial platform without ladders. Figure 4 is a hline view of a partial platform without ladders.

Partial Platforms With Ladders

A partial platform with ladder(s) is a significantly different case. The start and/or end angle specifies the platform location. For the case of a ladder at the platform start, both the interior and exterior actual start angle is computed using a specified ladder offset (typically one half the width of the ladder). Both the start interior and exterior angles will be greater than the ladder start angle. The start interior toe plate angle will be greater than the start exterior toe plate angle. The start edge of the platform will be parallel to a line running from the vessel center extending out at the ladder start angle. Similarly for the case of a ladder at the platform end, both the interior and exterior actual end angles are computed using the ladder offset. Both the end interior and exterior toe plate angles will be less than the ladder end angle. The end interior toe plate angle will be less than the end exterior toe plate angle. Figure 2 illustrates a partial platform without ladders. Figure 5 is a hline view of a partial platform without ladders.

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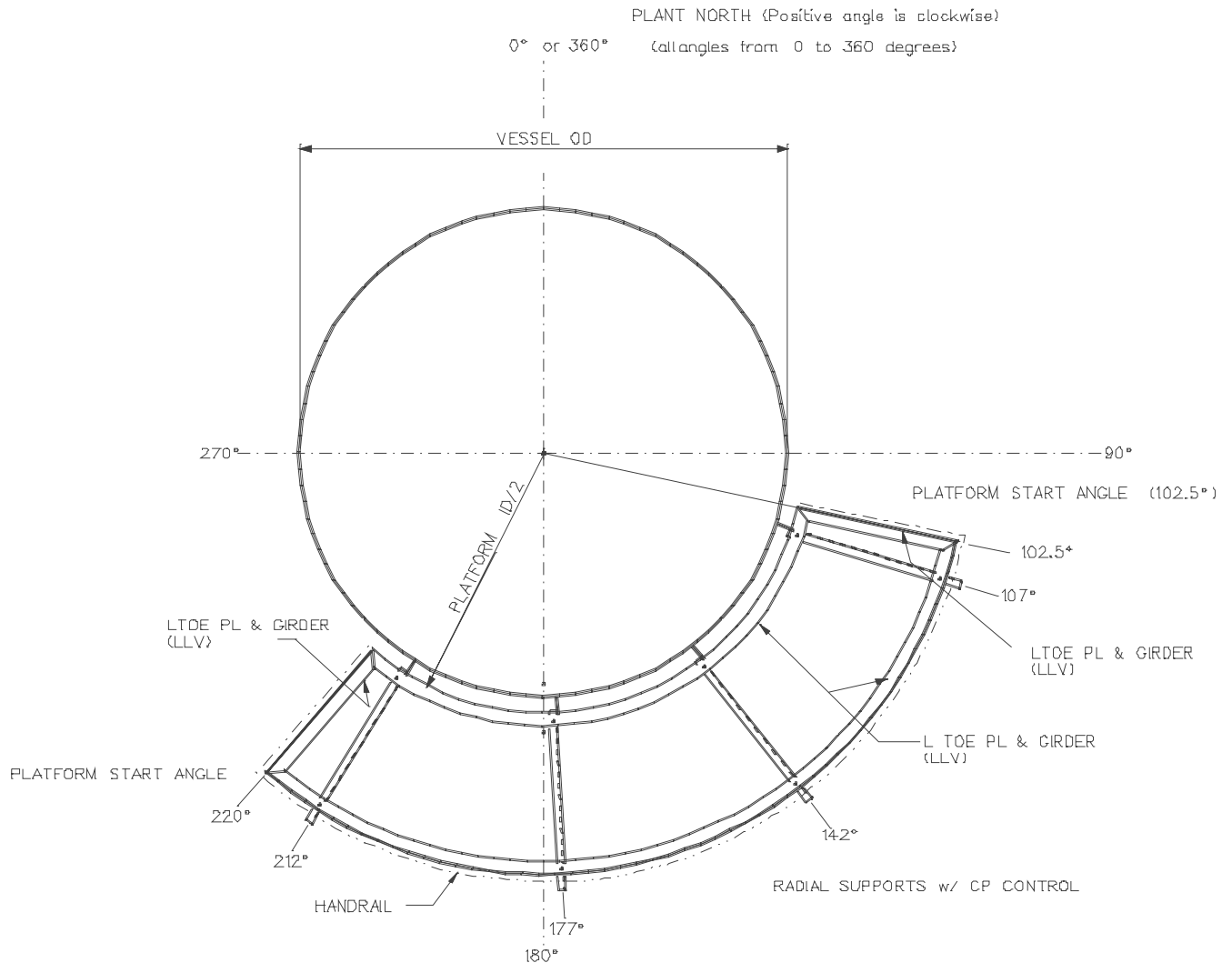


Figure 1 - Platform without Ladder
(Start angle 102.5 degrees – End Angle 220 degrees)

The platform shown is a partial platform w/o ladders. A start angle of 102.5 degrees was used to show the effects of a ladder on the platform end (see figure 2). The start of 102.5 is roughly equivalent to the interior toe plate start angle for the platform w/ ladder at the start shown in figure 2. Notice that in addition to the landing there are two additional differences in the platforms.

1. Angle long leg is NOT turned down at platform start end
2. Handrail is placed at platform start end

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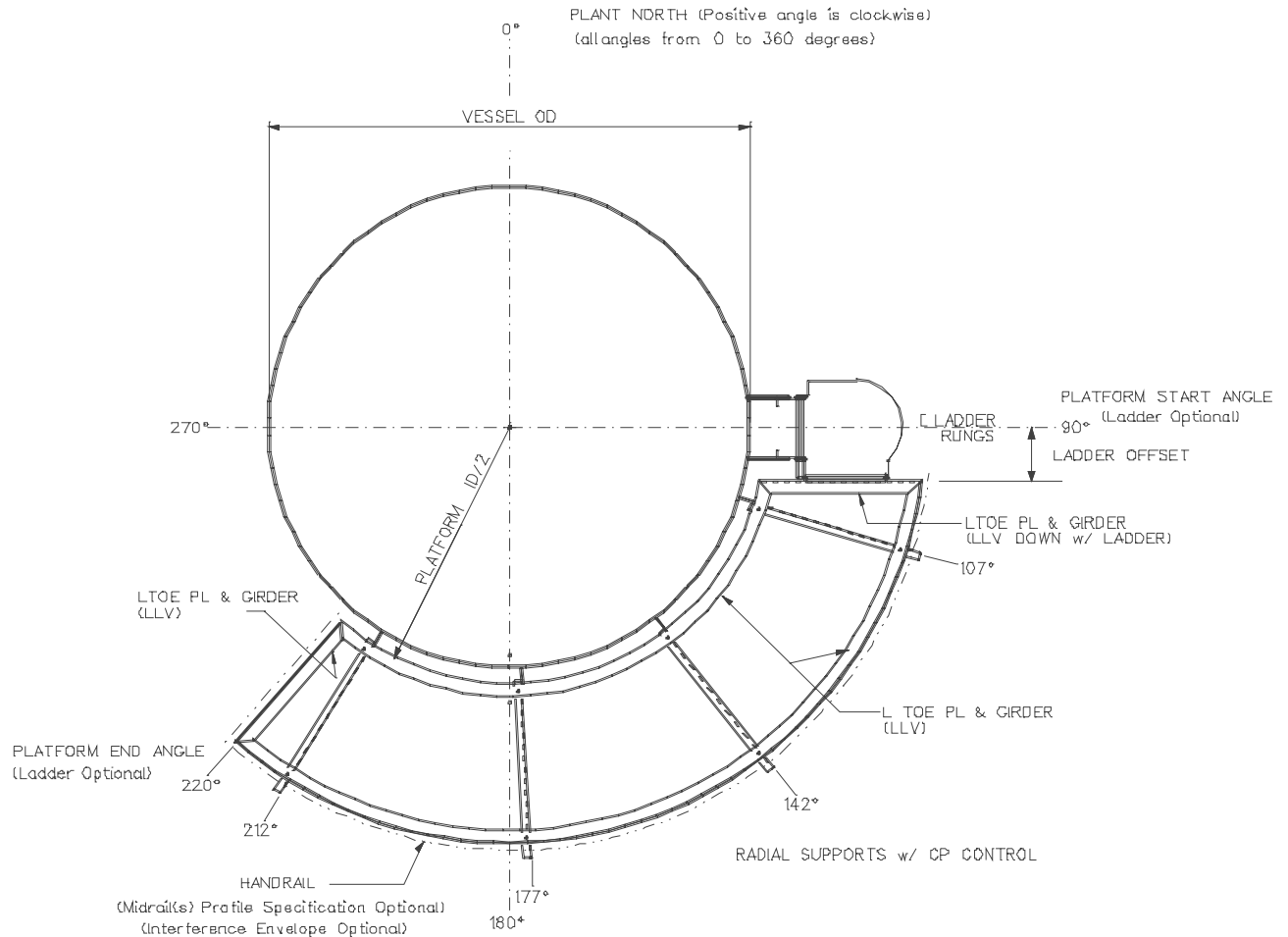


Figure 2 - Platform with a Ladder at the Start Position
(Ladder Start Angle 90 degrees - Platform End Angle 220 degrees)

The platform ladder start is 90 degrees. The actual angle for interior toe plate is 102.807 degrees. The interior angle can be computed as follows:

$$\text{AngleInterior} = \text{platf_start_angle} + \text{asin}(\text{ladder_offset}/(\text{platform_id}/2))$$

(102.807 for case where ladder_offset=1.33 platform_id=12)

The actual angle for exterior toe plate is 98.498 degrees. The exterior angle can be computed as follows:

$$\text{AngleExterior} = \text{platf_start_angle} + \text{asin}(\text{ladder_offset}/(\text{platform_id}/2 + \text{platf_width}))$$

(98.498 for case where platf_width=3)

Note that a platform w/ ladders has the following special features at platform end(s)

1. Platform ladder (start) end has a special landing to accommodate ladder exit
2. Angle long leg is turned down at platform ladder (start) end
3. Handrail is omitted at platform ladder (start) end

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Vessel Circular Platform – Basic Operation & Notes (con'd)

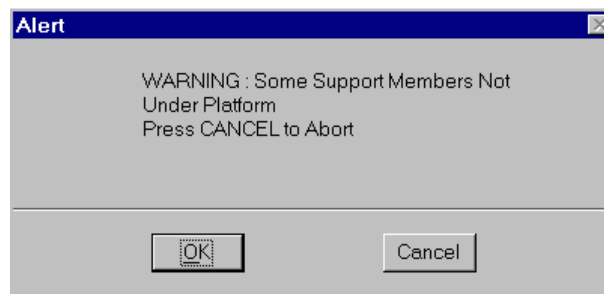
Radial Support Notes

The radial supports provide support for the angle toe plates for the platform. The platform TOS is the top of steel of the radial supports. The platform radial supports may extend both inward (toward the vessel) and outward from the tope plate limits (platform width). The cardinal point (CP) of the radial supports may be defined as 7, 8 or 9. An option is provide to request that CP be adjusted if radial support angle matches platform start or end interior angles so that radial support flange is not exposed. Radial support location is initially defined as a number of supports at equal spacing (multiple definition techniques). Once defined, an option exists to review and change individually any or all of the radial support locations.

The following options are available for initial radial support location definition:

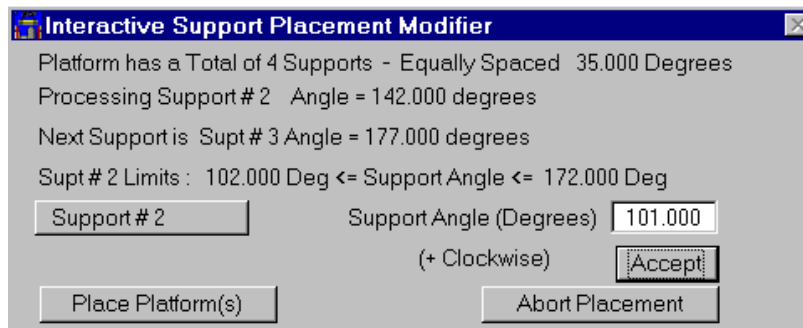
- 1-Support Start & End Angle & Max Angle Defined
- 2-Support Start & End Angle & Number Support Spaces Defined
- 3-Support Start Angle & Angle Spacing & Number Support Spaces Defined
- 4-Supports Match Platform w/ Max Angle Spacing Defined
- 5-Supports Match Platform w/ Number Interior Support Spaces Defined
- 6-Supports Match Platform w/ Max Distance Defined

Each of the above options will produce a set of equally spaced support beams. The first three options allow extreme control. Extreme to the point where supports may be defined which do not lie beneath the platform (probably not a good idea!). If supports are defined which do not lie beneath the platform, a warning is given.



The warning may be accepted with an OK and the supports & platforms will be placed as requested. If the interactive support review toggle is on, the interactive review dialog box will appear and supports may be altered. If the “Cancel” button is pressed, the primary dialog box reappears w/o placement.

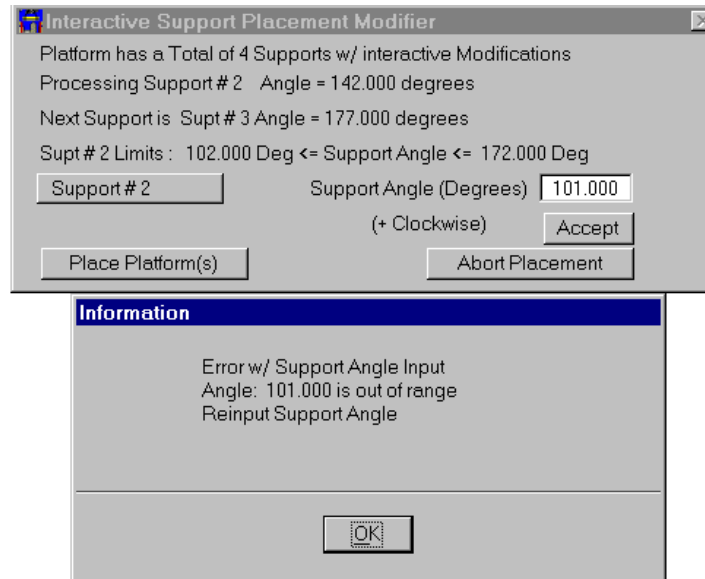
If the interactive support review option is toggled on, the dialog box as shown below is presented.



The support option button allows any support to be selected for information and/or angle redefinition. The active support may be adjusted within the limits of the preceding support and next support. End supports may not be defined beyond the limits of the platform. To change a support location, keyin the new angle and press accept. If an invalid angle is input, the following dialog box will appear.

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Vessel Circular Platform – Basic Operation & Notes (con'd)



After all the supports are properly located, the place platform button may be pressed to proceed with placement.

Handrail Notes

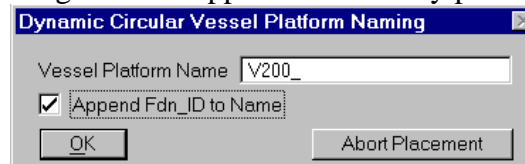
The handrail posts may be placed using maximum HR post spacing and matching platform extents or the handrail posts may be placed to match radial support beams. If the handrail posts match radial support beams, the arc distance between them is computed and if that distance is less than the hr_post_space an additional post is placed between support members. An interference envelope may be placed around the handrail and an height may be specified (see figure 6).

Grating Notes

Finally in this configuration the grating distance between limit of grating and inside edges of toeplate may be specified in the definitions file.

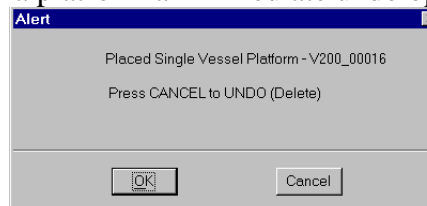
Naming Notes

As previously mentioned naming options include 1) a constant specified name for all circular platforms, 2) dynamic naming where the circular platform name with or without FWP_ID appended is defined at placement time or 3) FrameWorks normal naming for individual components (autoname). If dynamic naming is specified in the definition file, the following dialog box will appear immediately prior to placement of platform.



Immediate Undo

Immediately following the placement of a platform an immediate undo option is presented as follows.



If "OK" is pressed, the platform is accepted. If "Cancel" is pressed, all platform members are undone (deleted). After placement, the primary dialog box reappears.

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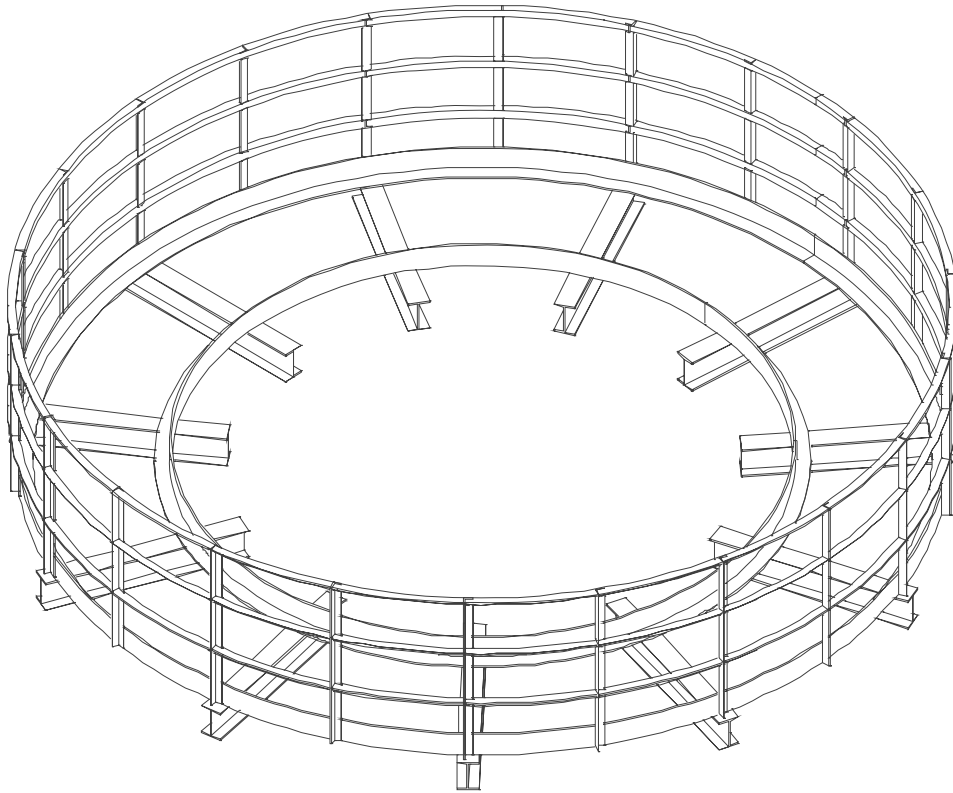


Figure 3 - 360 Degree Vessel Circular Platform

(Handrail on Radial Support Option Active)

(Grating removed for clarity of presentation)

The platform shown above is generated when a 360 degree platform is requested (note that 360 degree platform can not have ladder access). The place handrail posts on supports option was activated for the above platform. Notice that an extra post was provided between the supports. An extra post is provided when the arc distance between posts exceeds the maximum post spacing. The radial supports can extend toward and/or away from the vessel. The CP of the radial support members can be specified (CP=8 for this case). The TOS value is always the top of steel of the radial support member (also the BOS of the toe plate angle). The grating rests on top of the toe plate angle base flange. Thus the top of grating is the thickness of the angle flange and the grating.

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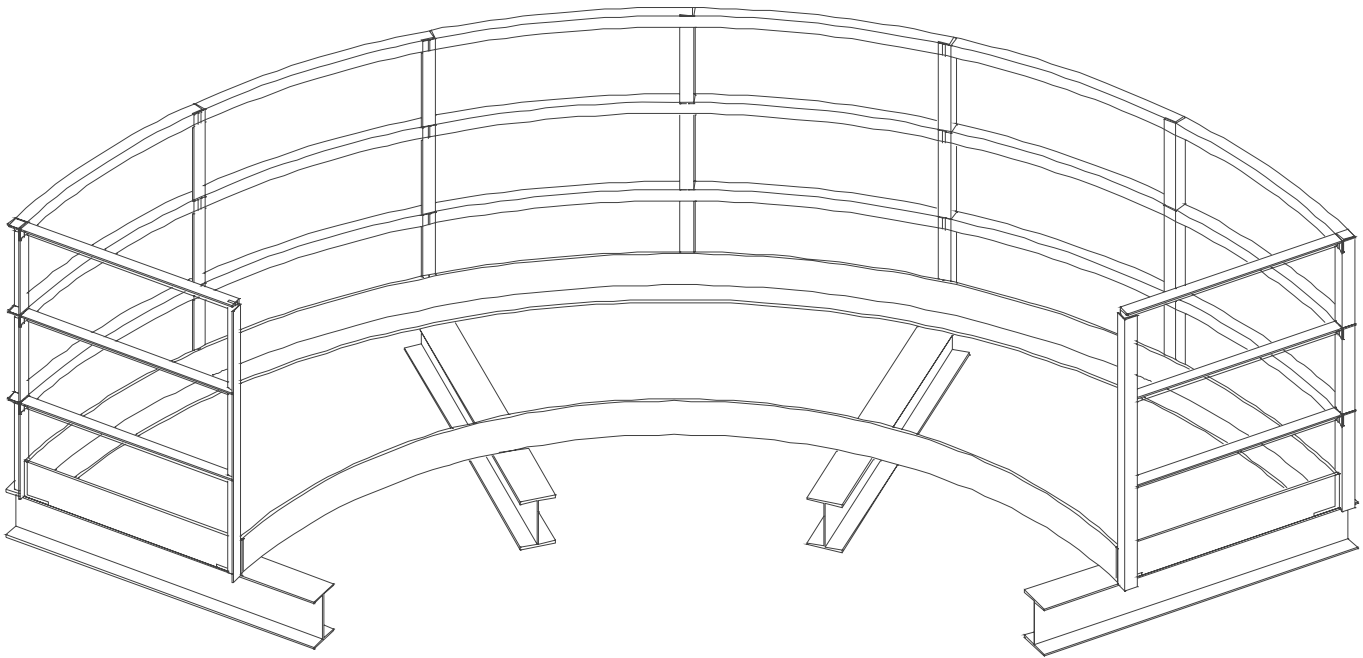


Figure 4 - Partial Vessel Circular Platform w/o Ladders

(Handrail on Radial Support Option Active)

(Grating removed for clarity of presentation)

The platform shown above is generated when a partial platform is requested w/o ladders. In this case, the platform ends are parallel to radial supports extending from the vessel center. For platforms without ladders two additional things occur: 1) all angle toe plate has the LLV and 2) top rail & mid rail handrails are provided at the start and the end of the platform. The place handrail posts on supports option was activated for the above platform. Notice that an extra post was provided between the supports. An extra post is provided when the arc distance between posts exceeds the maximum post spacing. The radial supports can extend toward and/or away from the vessel. The CP of the radial support members can be specified (CP=8 for this case). In addition, a option may be invoked to use a CP of 7 or 8 to align radial support with platform end if radial support angle is equal to the platform start or end angle (option invoked in this case). The radial supports do not have to match the platform ends, radial support definition can be independent of actual platform location. The TOS value is always the top of steel of the radial support member (also the BOS of the toe plate angle). The grating rests on top of the toe plate angle base flange. Thus the top of grating is the thickness of the angle flange and the grating.

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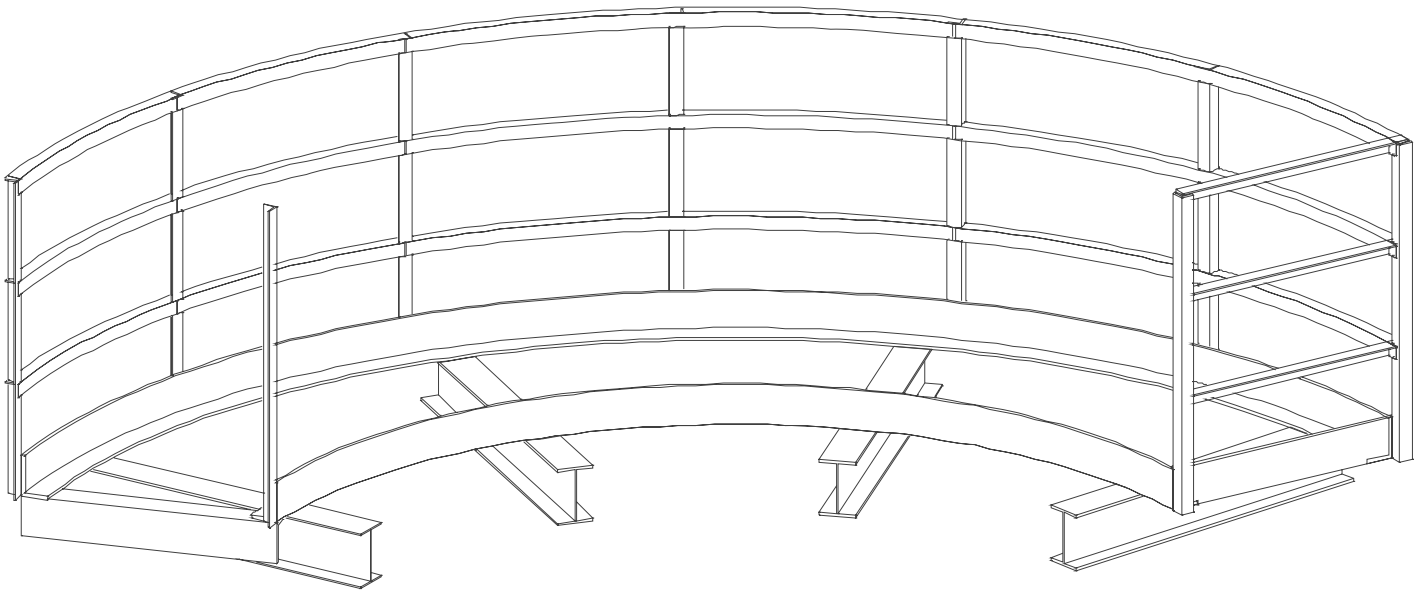


Figure 5 - Partial Vessel Circular Platform w/ Ladder at Start
(Handrail on Radial Support Option NOT Active)
(Grating removed for clarity of presentation)

The platform shown above is generated when a partial platform is requested with a ladder at the start of the platform. This platform matches the layout shown in Figure 2. In this case, the start platform end is not parallel to radial lines extending from the vessel center. Since the end of the platform does not have a ladder, the end platform end is parallel to radial line extending from the vessel center. Note that for this case, the end platform end is not parallel to the radial support near the end as the angle of the end radial support (212 degrees) does not match the angle of the end of the platform (220 degrees). For platform ends with ladders two additional things occur: 1) the angle toe plate has the long leg down at platform ladder end and 2) top rail & mid rail handrails are not provided at ladder platform end. The place handrail posts on supports option was NOT activated for the above platform – notice the position of the handrail posts. Post spacing was controlled by the maximum post spacing defined in the definition file. The radial supports can extend toward and/or away from the vessel. The CP of the radial support members can be specified (CP=8 for this case). In addition, an option may be invoked to use a CP of 7 or 8 to align radial support with platform end if radial support angle is equal to the platform start or end angle (option did not matter for this case as the radial supports did not match the start or end of the platform). The radial supports do not have to match the platform ends, radial support definition can be independent of actual platform location. The TOS value is always the top of steel of the radial support member (also the BOS of the toe plate angle). The grating rests on top of the toe plate angle base flange. Thus the top of grating is the thickness of the angle flange and the grating.

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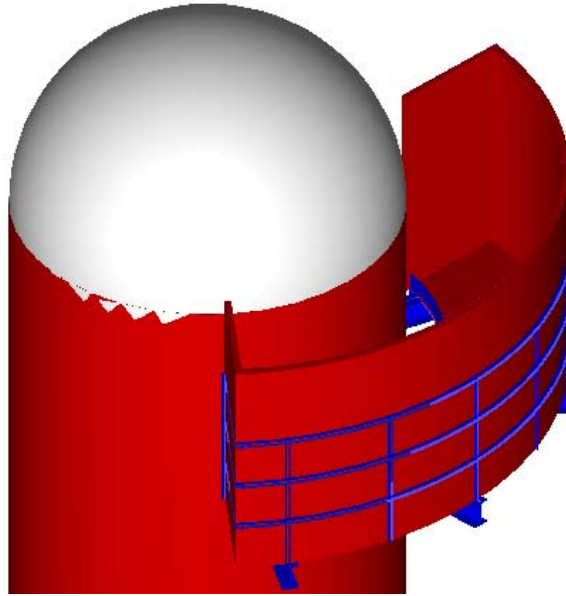


Figure 6 - Partial Vessel Circular Platform w/ Ladder at Start
(Handrail on Radial Support Option Active)
(Handrail Interference Envelope Option Active)

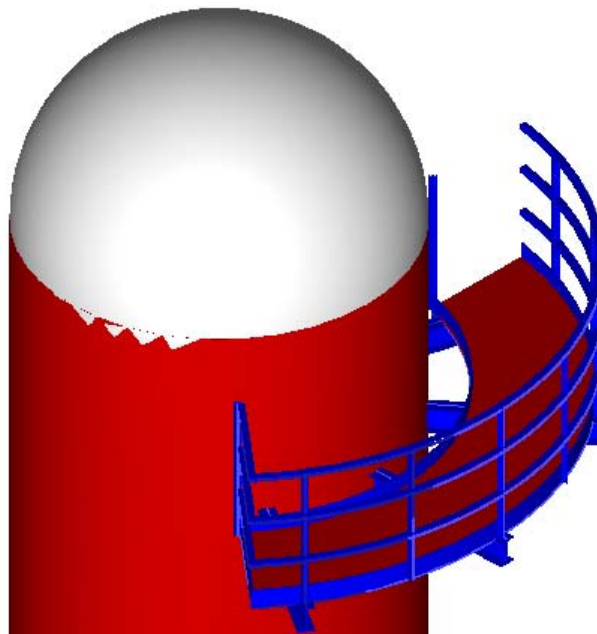


Figure 7 - Partial Vessel Circular Platform w/ Ladder at Start
(Handrail on Radial Support Option Active)
(HR Interference Envelope Option NOT Activated)

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Vessel Circular Platform Definition File

Command Definition

- **Valid Primary Keyword Commands :**
(UNI, GEN, SUP, HRR, HRP, HRM, SUD, HRS, GRA, TKS, NGP, NAME)
- Each record must begin with a valid primary keyword or it is ignored
- All records that start with a blank are considered comments
- The commands/keywords (records) may be placed in any order however the order is significant
- The components of a given command (record) must all be present and in the order shown
- By default application looks for C:\ACE_PSG.DEF definition file
- Definition file path may be defined with environment variable **ACE_DEF_PATH**
- **ACE_DEF_PATH=d:\mydir**
(the DEF file ACE_CP.DEF will be looked for in the directory d:\mydir)
- Definition file may be defined with environment variable **ACE_CP_DEF**
- **ACE_CP_DEF = d:\mydir\mydef_file** (*highest priority definition*)
(the DEF file mydef_file will be looked for in the directory d:\mydir)
- **NOTE :** Components shown in bold may only be specified in the definitions file

UNI Command - Units Command (optional command)

UNIT {UNITTYPE} {UNIT}

where :

{UNITTYPE} May be ENGLISH (feet) or METric (meters).

If units is not specified it is assumed that the units match the current model units.

{UNIT} Must be FEET or INCH for ENGLISH (default feet) or must be METER or MM for METric (default meters).
If unit is not specified, it is assumed that the units are feet for English & meters for metric.

Units may be changed at any time but be aware that the properties (in attached library) for the member specified must match the current model units.

GEN Command - General platform defaults

GEN tos inside_diam platf_width platf_st_angle platf_en_angle platform_opt

where

tos : TOS for the curved girder and support member for conventional configuration (default 100 ft)
: TOS for the support member (BOS toplate angle) for the special toeplate configuration

inside_diam : Inside diameter to inside edge of girder (default 10.0 ft)

platf_width : Platform width (inside girder edge to outside girder edge) (default 2.5 ft)

platf_st_angle : Startup platform start angle (default 30 degrees)

platf_en_angle : Startup platform end angle (default 105 degrees)

platform_opt : Startup option for platform (default 1)
1 - Partial platform (default)
2 - 360 degree platform

TPL Command - Toeplate Command defines toeplate

TPL tpl_section tpl_class tpl_grade tpl_type

where

tpl_section : Section size for toeplate (typically a user shape) (default L6X5X1/2)
Toe Plate must be an angle profile
Section profile name may be enclosed in quotes
If name includes spaces, quotes must be utilized (i.e. "L6X5X1/2")

tpl_class : The class for the toeplate (0 =< class < 10) (default 7)

tpl_grade : The grade for the toeplate (i.e. A36 etc) (default A36)

tpl_type : The type for the toeplate (BE,CO,VB,HB) (default VB)

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Vessel Circular Platform Definition File (continued)

HRR Command - Handrail Rail Command defines rail

HRR *hrr_section hrr_class hrr_grade hrr_type*

where

hrr_section : Section size for handrail rail (Pipe or Angle) (default P2STD)
Section profile name may be enclosed in quotes
If name includes spaces, quotes must be utilized (i.e. "P1 1/2STD")
hrr_class : The class for the handrail rail (0 =< class < 10) (default 7)
hrr_grade : The grade for the handrail rail (i.e. A36 etc) (default A36)
hrr_type : The type for the handrail rail (BE,CO,VB,HB) (default VB)

HRP Command - Handrail Post Command defines post

HRP *hrp_section hrp_class hrp_grade hrp_type*

where

hrp_section : Section size for handrail post (Pipe or Angle) (default P2STD)
Section profile name may be enclosed in quotes
If name includes spaces, quotes must be utilized (i.e. "P1 1/2STD")
hrp_class : The class for the handrail post (0 =< class < 10) (default 7)
hrp_grade : The grade for the handrail post (i.e. A36 etc) (default A36)
hrp_type : The type for the handrail post (BE,CO,VB,HB) (default VB)

HRM Command - Handrail Midrail Command defines midrail(s) (OPTIONAL COMMAND IF NOT PRESENT - HRR USED FOR ALL RAILS)

HRM *hrm_section hrm_class hrm_grade hrm_type*

where

hrm_section : Section size for handrail midrail (Pipe or Angle) (default P2STD)
Section profile name may be enclosed in quotes
If name includes spaces, quotes must be utilized (i.e. "P1 1/2STD")
hrm_class : The class for the handrail midrail (0 =< class < 10) (default 7)
hrm_grade : The grade for the handrail midrail (i.e. A36 etc) (default A36)
hrm_type : The type for the handrail midrail (BE,CO,VB,HB) (default VB)

HRS Command - Handrail standards Command defines handrail standards

HRS *hrr_height_top hrr_height_mid hrr_height_third hr_post_space hr_on_supt_opt
hr_envelope env_height*

where

hrr_height_top : Handrail height from TOS to top of handrail rail(default 3.5 ft)
hrr_height_mid : Handrail height from TOS to top of handrail mid rail (default 0.0 ft)
hrr_height_third : Handrail height from TOS to top of handrail third rail(default 0.0 ft)
hr_post_space : Maximum horizontal spacing for HR posts (default 4.0 ft)
hr_on_supt_opt : Handrail Posts Match Support Beams (default 1)
1 - Handrail Posts at start & end of platform w/ min space
2 - Handrail Posts on Support beams
(Negative value locks toggle)
hr_envelope : Handrail Interference Envelope Option Startup Value (default 1)
0 - No Envelope
1 - Handrail Envelope On
env_height : Interference Envelope Height (default **hrr_height_top**)

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Vessel Circular Platform Definition File (continued)

SUP Command - Support Command defines platform/girder radial support beams

SUP *sup_section sup_class sup_grade sup_type*

where

sup_section : Section size for support member (i.e. W8X31 or tapered "W8X31->W8X18")
sup_class : The class for the support member (0 =< class < 10) (default 6)
sup_grade : The grade for the support member (i.e. A36 etc) (default A36)
sup_type : The type for the support member (BE,CO,VB,HB) (default VB)

NOTE: If **WID** option is specified sup_section is not changeable from dialog box (see next page)

SUD Command - Support Command defines platform/girder parameters??????

SUD *ladder_offset interior_ext exterior_ext sup_CP sup_CP_opt min_angle_spc support_opt
start_angle end_angle angle_spacing min_space min_supts sup_rev_opt*

where

ladder_offset : Ladder offset - distacne from ladder CL to Platform edge (default 1.25 ft)
interior_ext : Extension from inside girder edge toward vessel (toeplate angle configuration only) (default 0.833 ft)
exterior_ext : Extension from outside girder edge away from vessel (toeplate angle configuration only) (default 0)
sup_CP : CP for radial supports (7, 8 or 9) (default 8)
sup_CP_opt : Orientation option at platform edges (default 1)
1-No Orientation changes (CP remains unchanged) (default)
2-Orient radial support edge to match platform edge if angles equal
min_angle_spc : Minimum angle in degrees between supports (default 5 degrees)
support_opt : Option for Angle Toe Plate Platform Support Definition (default 1)
1-Support Start & End Angle & Max Angle Defined
2-Support Start & End Angle & Number Supports Defined
3-Support Start Angle & Angle Spacing & Number Supports Defined
4-Supports Match Platform w/ Max Angle Spacing Defined
5-Supports Match Platform w/ Number InteriorSupports Defined
6-Supports Match Platform w/ Max Distance Defined
(Negative value locks option button)
start_angle : Startup start angle (default 30 degrees)
end_angle : Startup end angle (default 105 degrees)
max_angle_spc : Maximum angle in degrees between supports (default 30 degrees)
min_space : Minimum spacing for support members (arc distance of outside girder/toeplate line) (default 4.0 ft)
min_supts : Minimum number of support members (default 3)
sup_rev_opt : Interactive support review option at startup (default 1)
1-Review inactive (default)
2-Review Active

ACE FrameWorks Vessel Circular Platform Documentation

Vessel Circular Platform Definition File (continued)

WID Command - Width Command defines width dependency & data for alternate support and intermediate support

WID *width_alt width_int intsup_CP intsup_TOS_opt intsup_loc*
(OPTIONAL COMMAND USED TO SPECIFY SUPPORT BEAM & INTERMEDIATE SUPPORT
BEAM DEPENDENT UPON PLATFORM WIDTH)

where

width_alt : If platform width is > width_alt then the alternate support beam profile is used
width_int : If platform width is > width_int then an intermediate support beam is placed
(the intermediate support beam spans from platform intsup_loc location on support beams)
intsup_CP : CP for radial intermediate supports (7, 8 or 9) (Default 8)
intsup_TOS_opt : TOS Method for Intermediate Support
0-TOS is placed as CP line coordinate (Default)
1-CP line at TOS of SUPT w/ vertical offset of arc angle thickness
(the TOS for the intermediate supt beam is the supt beam TOS plus arc angle thickness)
intsup_loc : Location from Di to Do for support (.5 (halfway) is default)
(0.0 < intsup_loc < 1.0)

SU2 Command - Support2 Command defines alternate radial support beams

SU2 *su2_section su2_class su2_grade su2_type*
(OPTIONAL COMMAND USED ONLY IF WID IS SPECIFIED –
SUPPORT BEAM DEPENDENT UPON PLATFORM WIDTH)

where

su2_section : Section size for alternate support member (i.e. W8X31 or tapered "W8X31->W8X18")
Note : quotes must be used if profile name contains spaces
su2_class : The class for the alternate support member (0 =< class < 10)
su2_grade : The grade for the alternate support member (i.e. A36 etc)
su2_type : The type for the alternate support member (BE,CO,VB,HB)
(note that the named group for the alternate support is the same as the support)

IS2 Command - Intermediate Support Command defines intermediate support beams

IS2 *isu_section isu_class isu_grade isu_type*
(OPTIONAL COMMAND USED ONLY IF WID IS SPECIFIED - INTERMEDIATE SUPPORT BEAM
DEPENDENT UPON PLATFORM WIDTH)

where

isu_section : Section size for intermediate support member (i.e. W8X31)
Note : quotes must be used if profile name contains spaces
isu_class : The class for the intermediate support member (0 =< class < 10)
isu_grade : The grade for the intermediate support member (i.e. A36 etc)
isu_type : The type for the intermediate support member (BE,CO,VB,HB)
(note that the named group for the intermediate support is the same as the radial support)

Note that when WID & SU2 are specified, the option to change the radial support profile from the dialog box is disabled. The only way to activate the width dependent radial support option is to specify the WID & SU2 commands. The radial support profile is then controlled by platform width & variable width_alt.

Note that when WID & IS2 are specified, the intermediate support option is activated and is dependent upon platform width & variable width_int. The only way to activate the intermediate (width dependent) support option is to specify the WID & IS2 commands.

ACE FrameWorks Vessel Circular Platform Documentation

Vessel Circular Platform Definition File (continued)

GRA Command - Grating Command defines grating

GRA *gra_tk gra_class gra_grade lock_option edge_clearance gra_matl gra_type gra_method*
where

gra_tk : grating thickness in inches (english) or mm (metric) (default 1 inch)
(MAY BE CHANGED UNLESS LOCK OPTION IS SPECIFIED)
(NOTE that grating thickness is specified with inches or millimeters)

gra_class : The class for the grating (0 =< class < 10) (default 6)

gra_grade : The grade for the grating (i.e. A36 etc) (default A36)

lock_option : Lock grating choice with LOCK or allow selection with NOLOCK (default NOLOCK)

edge_clearance : Distance from inside/outside angle web to edge of grating (default .040 ft)

gra_matl : The material type for the grating (Default 0 - steel)
(0-steel 1-concrete 2 - usually aluminum)

gra_type : Grating FWP solid type (SLAB (default), SOLID or WALL)

gra_method : Method for creating a FWP solid (default arc/line construction)
(0-arc/line construction 1 – multi-line construction)

The above two commands apply only to FWP version 7.1.x.x & later
FWP version 3.1.x.x/3.2.x.x places a multi-line type SLAB FWP solid.
FWP version 7.0.x.x produces a arc/line type SOLID FWP solid.

TKS Command - Thickness Command defines thickness options

TKS *iTks sTks1 ... sTksn*

where

iTks : number of thicknesses (9 max)

fTks1 : First thickness definition (all thickness values must be greater than 0)

fTksn : Last thickness definition (9 maximum). All Thickness in mm or inch
(Note: if TKS command is not supplied 1.0, 1.125, 1.25, 1.375 & 1.5 inches is used)

ENV Command - Envelope Command defines interference envelope parameters

ENV *env_class env_grade env_material*

where :

env_class : The class for the interference envelope (default = 9)
(0 =< class < 10)

env_grade : The grade for the interference envelope (default: Access)

env_material : The material type for the interference envelope (default 2 (usually Aluminum)
(0-steel 1-concrete)

ACE FrameWorks Vessel Circular Platform Documentation

Vessel Circular Platform Definition File (continued)

NGP Command - Named Group Command defines namedgroups

NGP iNGP_gir iNGP_sup iNGP_toe iNGP_hrp iNGP_hrr iNGP_hrm iNGP_gra iNGP_env
where

<i>iNGP_sup</i>	: Named group for platform support beam (default -1 which is none)
<i>iNGP_toe</i>	: Named group for platform toe plate (default -1 which is none)
<i>iNGP_hrp</i>	: Named group for platform handrail post (default -1 which is none)
<i>iNGP_hrr</i>	: Named group for platform handrail top rail (default -1 which is none)
<i>iNGP_hrm</i>	: Named group for platform handrail midrail(s) (default -1 which is none)
<i>iNGP_gra</i>	: Named group for platform solid grating (default -1 which is none)
<i>iNGP_env</i>	: Named group for platform HR interference envelope (default -1 which is none)

NOTE: Namedgroups are defined globally for a project. The *iNGP_xxx* value is an integer value that corresponds to the index of the global namedgroups. The first namedgroup is 0, the next is 1 and so on up to a maximum integer value of the number of namedgroups minus one. If a name group does not exist for the integer value specified, the member type in question will simply not be placed in a named group. A value of -1 specifies that the member type in question is not to be put in a namedgroup. In FWP namedgroups are specified by an alpha name so be careful when selecting integers. **SOLID NAMEDGROUPS ARE FUNCTIONAL with FWP version 7.0.0.17 and later**

NAME Command - Name Command defines method of naming components

NAME {NAME_OPTION} name_prefix

where

<i>{NAME_OPTION}</i>	: Keyword - must be AUT or DYN or SPE or CON (default SPE w/ name CIRPLATF)
AUTo	: FrameWorks assigns names by type and sequence number (name_prefix not required or utilized)
DYNamic	: At placement time will display the last name(prefix) used with following options 1) option to supply new name/prefix 2) option to append the member ID for first girder placed Thus each platform can have a unique name However all components of a given platform will have same name 3) option to abort placement of platform
SPEcified	: Use the supplied name and append the member ID for first girder placed Thus each platform will have a different name However all components of a given platform will have same name
CONstant	: Use this name for all platforms placed for all components

ACE FrameWorks Vessel Circular Platform Documentation

LOG FILES

All applications can write log files if the environment variable ACE_DUMP is set to 1. There have been reports that some sites lock the C root drive and under certain conditions a locked C drive can cause a system fault 5.

All applications have been modified to warn of a locked drive/file and then gracefully exit. All applications now look for the environment variable ACE_LOG_PATH. If it is found, that is the directory where the log files will be placed. If the directory is locked or non-existent or if file is locked a warning will be given and the C drive will be tried. If it is locked or the file is locked a warning will be given and application will gracefully exit.

Usage of the variable ACE_LOG_PATH to control log file locations is similar to ACE_DEF_PATH to control DEF files. However there is one very important difference: ACE_LOG_PATH should NEVER point to a network drive (this is highly recommended for ACE_DEF_PATH). Everyone writes to the same named log file and if they are on a network drive there will be bad consequences. ALWAYS point ACE_LOG_PATH to a local drive (perhaps a temp off C root).