Assigning Constraints in Primavera

P6
Assigning Constraints in Primavera P6

This lesson is all about using the 2 different constraints types available to you in P6. You will learn about **Activity constraints**, and a project constraint called “**Must Finish By**” date.

First, a bit of background on how constraints are implemented in Primavera. Constraints are imposed date restrictions placed on the dates of your project. **2 types** are available

1. **Activity Constraints**: you can restrict either the start, finish or both of an activity
2. **Project Constraint**: you can assign a “Must Finish By” target date for the completion of your project. This is a date restriction on the finish of the entire project

We will look at both types in detail in this lesson, starting with **Activity Constraints**.

Constraints are an essential tool to help your project reflect the real world. In any project management software, the automated scheduler assigns highly “ideal” dates to activities. In reality, often we have to tweak an activity’s dates because of real world limitations. For example, you may have to tweak the scheduler’s ideal dates for a roofing activity because the materials won’t be on site until a few days later. The scheduler does not know this
Assigning Constraints in Primavera P6

information and the dates the scheduler assigned are simply not realistic. You will learn how to use constraints to tweak the dates of your activities. Start by navigating to Activity A1140. Click the Scroll bar down to activity A1140.

Select activity A1140 to highlight it.

Good. Notice how the Gantt chart is scrolled too far to the right to show the bar for this activity? Well, here’s a trick-if you double click in the Gantt chart next to the activity, the Gantt chart will automatically scroll to the timeframe for that activity. Give it a try. Double click in the highlighted area on the Gantt chart to auto-scroll.

Very good! Notice how the Gantt chart scrolled to the correct timeframe where a bar for Activity A1140 is displayed. Let’s start working with constraints now. You can find the constraints fields for activities on the status tab. Click on the Status tab.

The area highlighted in blue is where you will assign constraints to an activity. Did you notice that you can assign a Primary and a Secondary constraint? Don’t be fooled by the names, the primary constraint is NOT more important than the secondary. More simply – you can assign up to 2 constraint to any activity. Why? Because you can costrain the Start
Assigning Constraints in Primavera P6

Date, the Finish Date, or both. That’s why there are 2 sets of fields, the primary set and the secondary set.

Now, notice A1140 – Install Computer is scheduled to start on 24-Sept-2014. However, you have just found out that the activity will not be able to start on that date because the rack the computer will be installed into is on backorder and won't be delivered until 29-Sept-2014. You will now assign a “Start on or After” constraint to have the activity to start on 29-Sept-2014 instead of 24-Sept. click on the Primary field to expand the dropdown list.

You can see there are many constraints to choose from in the dropdown list. After you complete this lesson, we recommend you learn about each by using Primavera's Help resources. In P6, you can access Help at any time by pressing F1. Simply search for “constraints” and you will find a detailed explanation of each constraint. Let’s continue assigning this constraint. Click the scrollbar to scroll down the dropdown list.

Since you want Activity A1140 to start on 29-Sept but no earlier, you will use a “Start On Or After” constraint. Choose “Start On Or After” from the list.
Assigning Constraints in Primavera P6

Now you will set the date to 29-Sept. Click the... button to bring up the calendar.

Select Sept 29 in the calendar

Click the select button to lock in your date choice.

You have got your constraint in place now. In order for your project to reflect the constraint, you will have to schedule the project. Then you will see a change to the activity’s start date, finish date and the Gantt chart. Click the Schedule icon on the toolbar or press the F9 key.

Click the Schedule button

It’s time to take a close look at the result. Now look to the Activity List on the left. The Start Date of A1140 now reflects the 29-Sept date you entered as a Start constraint. The Finish Date has also changed. Also, notice the (*) asterisk next to the Start Date – this asterisk is a helpful indicator that tells you “this date has been constrained.” Now, it’s time to move onto applying a Project constraint. Click the scroll bar to scroll to the top of the Activity List
Assigning Constraints in Primavera P6

Before you apply a constraint to the entire project, you should look at the “before” picture. Applying a project constraint will affect the Total float of your project. Total Float can be an indicator of whether your project will finish on time or not. Notice in the blue grouping bar that the Total Float for the project is 0 days which indicates that currently your project will finish on-time. You will check this value again after you apply the project constraint. Click the Project button on the Directory Bar.

Navigate to the Dates Tab

Applying a project constraint is essentially applying a “Must Finish By” date. A “Must Finish By” date is a special constraint placed on the project’s end date. Think of it as the target completion date for the project. Be aware that setting a “Must Finish By” date does NOT force the project to end on the date specified. But, by setting a “Must Finish By” target date, you can use Total Float to indicate how close you are to finishing by your target date. Click the…button to set a “Must Finish By” date.
Assigning Constraints in Primavera P6

Please note that your project is currently scheduled to finish on 23-Oct-2014 (end of day), as indicated in the Finish field. Let’s see what happens when we set the “Must Finish By” date to 20-Oct-2014, 2 days earlier. Click on Oct. 20th.

Click on the Select button to lock in your selected date.

Good! Your date is locked in. Now you will navigate back to the Activities Screen. Click on the Activities button on the Directory bar.

In order for the “Must Finish By” date that you have set to have an impact on your project, you will have to run the scheduler first. Click on the schedule button on the tool bar or you press F9 on your keyboard.

Click on the schedule button to run the scheduler.

How did applying a project constraint affect the Total Float of your project? I’m sure you noticed that the Total Float of your project decreased from 0 days to 3 days.
Assigning Constraints in Primavera P6

Applying the “Must Finish By” constraint date of 20-Oct reduced your project’s Total Float to 4 days. A Total Float of 4 days indicates that in order to finish your project by 20-Oct (i.e: the project is done as the clock strikes the first minute of 20-Oct) you would have to begin the project 3 days earlier. You could also reduce your project’s duration by 3 days. So, using a “Must Finish By” constraint allows you to set a project target completion date and assess your project’s lateness using Total Float.

Congratulations! That wraps up Assigning Constraints in P6. You have learned about activity and project constraints and how to apply them to your project. You are ready to move on to the next lesson.