

Managing Elapsed Duration Tasks in Microsoft Project

Tasks like “concrete curing” and “process testing” that take place 24 hours per day are sometimes referred to as “Elapsed Duration Tasks” and may be modeled in a number of different ways.

One option is to put the elapsed duration task on a 24 hour per day 7 day per week calendar but this is not recommended with Microsoft Project as this will result in incorrect calculation of the task and float durations in days.

Microsoft Project users should consider using the “Elapsed Duration” function to model tasks working 24 hour per day if they wish to assign a 24x7 calendar to a task because the duration in days is displayed correctly, but this option will result in losing the critical path on the “elapsed” duration tasks.

The disadvantage of making a Microsoft Project task “Elapsed” is that if the predecessor ends at 17:00 then a 5-day curing activity will start and finish at 17:00 and will have float when the successor starts the following morning.



Task Name	Task Calendar	Start	Dur	Finish	Total Slack	11 December 18 December 25 December																				
						S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1 All activities on 5d/w 8h/d calendar - No curing over weekends and project end date is delayed	5 d/w 8 h/d	11 Dec	15d	29 Dec	0d																					
2 Prepare and pour concrete	5 d/w 8 h/d	11 Dec	5d	15 Dec	0d																					
3 Cure concrete	5 d/w 8 h/d	18 Dec	5d	22 Dec	0d																					
4 Stip formwork	5 d/w 8 h/d	25 Dec	5d	29 Dec	0d																					
5 Curing set as an Elapsed Duration - Curing activity always has float and critical path lost	5 d/w 8 h/d																									
6 Prepare and pour concrete	5 d/w 8 h/d	11 Dec	5d	15 Dec	0d																					
7 Cure concrete	None	15 Dec	5d	20 Dec	0.63ed																					
8 Stip formwork	5 d/w 8 h/d	21 Dec	5d	27 Dec	0d																					
9 Curing on 7d/w 24h/d calendar - Curing duration is not calculated correctly																										
10 Prepare and pour concrete	5 d/w 8 h/d	11 Dec	5d	15 Dec	0d																					
11 Cure concrete	24 Hours	15 Dec	15d	20 Dec	1.88d																					
12 Stip formwork	5 d/w 8 h/d	21 Dec	5d	27 Dec	0d																					
13 Curing on 7d/w 8h/d calendar - Curing does not have float and critical path maintained	5 d/w 8 h/d	11 Dec	13d	27 Dec	0d																					
14 Prepare and pour concrete	5 d/w 8 h/d	11 Dec	5d	15 Dec	0d																					
15 Cure concrete	7 d/w 8 h/d	16 Dec	5d	20 Dec	0d																					
16 Stip formwork	5 d/w 8 h/d	21 Dec	5d	27 Dec	0d																					
17 Curing on 7d/w 8h/d calendar - Curing finished on the weekend, has float and critical path lost	5 d/w 8 h/d	11 Dec	15d	29 Dec	0d																					
18 Prepare and pour concrete	5 d/w 8 h/d	11 Dec	6d	18 Dec	1d																					
19 Cure concrete	7 d/w 8 h/d	19 Dec	5d	23 Dec	1d																					
20 Stip formwork	5 d/w 8 h/d	25 Dec	5d	29 Dec	0d																					

To reduce the loss of the critical path I recommend putting elapsed duration tasks on calendars with the same hours per day as the other work, but on a 7 day/week basis without weekends or non-workdays. Therefore, when the curing activity ends on Friday or Saturday evening, then it will normally still have Total Float when the successor may not start till the following Monday, so this technique will not solve the issue of losing a critical path in all circumstances.



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