



DFW 2021 Virtual Earth Day

Deicing Activity

Instructions: Use the story below to finish filling in the Glycol Usage Form and answer the questions.

Jack Frost is an Accredited Supervisor employed by Reindeer Airlines. On 12/24/21, Jack Frost activates Taxiway C at 9:52 a.m. due to snow and frigid 28° weather. Reindeer Airlines procedures require a 60/40 mixture for Type I deicing fluid (60% glycol product, 40% water). He completes deicing with the Type I glycol product at 10:05am after having used 1,255 gallons of the mixed Type I deicing fluid. At 10:05 am Mr. Frost was approved to apply 200 gallons of Type IV glycol product at 100% (not mixed with any water). At 12:32 pm he has completed deicing the 767 Wide Body (WB) Reindeer Airlines (tail #1224) Flight #1314 headed for the North Pole using both types of glycol.

The next aircraft comes to Taxiway C for deicing at 11:37 am. Jack uses the same 60/40 mixture of Type I deicing fluid. He completes deicing with the Type I glycol product at 11:45 am after having sprayed 950 gallons of the mixed Type I deicing fluid. At 11:45 am, Mr. Frost was approved to apply 150 gallons of Type IV glycol at 100%. At 1:22 pm he has completed deicing the 767 Wide Body (WB) Reindeer Airlines (tail #1124) Flight #2595 headed for the South Pole using both types of glycol.

The final aircraft comes to Taxiway C for deicing at 1:28 pm. Jack uses the same 60/40 mixture of Type I deicing fluid. He completes deicing with the Type I glycol product at 1:35 pm after having sprayed 700 gallons of the mixed Type I deicing fluid. At 1:35 pm, Mr. Frost was approved to apply 75 gallons of Type IV glycol at 100%. At 2:15 pm he has completed deicing the 767 Wide Body (WB) Reindeer Airlines (tail #1324) Flight #2001 headed for DFW Airport using both types of glycol.

ANSWER KEY: <http://earthdaydfwairport.com/downloads/Deicing-Activity-Answer-Key.pdf>



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Example Glycol Usage Form:

Date: 12/24/21 Accredited Supervisor: Jack Frost

Pad Location: Taxiway C De-icing/Anti-icing Provider: Reindeer Airlines

	Aircraft #1	Aircraft # 2	Aircraft # 3
Aircraft Flight Details			
Airline	Reindeer Airlines		
Flight #	1314		
Tail Number	1224		
De-icing Glycol Product Mixture Information (Type I)			
Total Gallons of Deicing Fluid Applied	1255		
% Glycol Product	60%		
Start Time	9:52 am		
Finish Time	10:05 am		
Anti-icing Glycol Product Mixture Information (Type IV)			
Total Gallons of Deicing Fluid Applied	200		
% Glycol Product	100%		
Start Time	10:05 am		
Finish Time	11:32 am		



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Instructions: Use the story and Glycol Usage Form on the previous pages to answer the following questions.

- 1) How long did it take Jack Frost to deice Flight # 1314 with both the Type I and the Type IV glycol products?

- 2) How many total gallons of deicing fluid was applied to the plane for Flight # 1314?

- 3) The Type I glycol product was mixed with water before it was sprayed on the plane. How many gallons of Type I glycol product was actually applied on Flight #1314? How many gallons of water was sprayed?

- 4) How many total gallons of deicing fluid was applied to the plane for Flight # 2595?

- 5) The Type I glycol product was mixed with water before it was sprayed on the plane. How many gallons of Type I glycol product was actually applied on Flight #2595? How many gallons of water was sprayed?

- 6) How many total gallons of deicing fluid was applied to the plane for Flight # 2001?

- 7) The Type I glycol product was mixed with water before it was sprayed on the plane. How many gallons of Type I glycol product was actually applied on Flight #2001? How many gallons of water was sprayed?

8) What is the total number of gallons of deicing fluid (all types) applied to planes for the day?

9) What is the average number of gallons of Type I deicing fluid applied per plane?

10) What is the average number of gallons of Type IV deicing fluid applied per plane?

11) Taxiway C is now closed for deicing and it is time to report on the deicing activities for the day. Create a graph to show the amount of deicing fluid sprayed at Taxiway C for the day.

