



Regeneration of silica gel in the normal household oven

A prerequisite for the regeneration of a loaded silica gel in a domestic oven is that no oil or other substances are on the surface and the regeneration temperature is observed.

1. Preparations

Set a temperature of 120°C and circulating air to ventilate the silica bulk as well as possible.



The silica gel should be spread as flat as possible in a baking sheet. The flatter the bed, the better the flow through with hot air and the faster the regeneration will take place.





2. Process

Push the baking sheet with as much distance to each other into the oven.

The regeneration time until completely dry depends on the bed height of the bulk and is calculated as follows:

<i>Silica gel amount on a sheet</i>	<i>Regeneration time</i>
0,5 kg	appr. 90 min.
1,0 kg	appr. 180 min.
1,5 kg	appr. 270 min.
2,0 kg	appr. 360 min.



After drying, the silica gel that is very hot and should be filled into a suitable container and sealed airtight as possible.

The cooling on the baking sheet under contact with the ambient air will loading the silica gel again and greatly limit the later use in the adsorber.





3. Example of drying 1,0kg and 2,0kg silica gel

With the example of 1.0 kg and 2.0 kg of silica gel the duration of development steps will be illustrated. Thus, the drying curves and processes are shown in Abbildung 1 and in Tabelle 1 below.

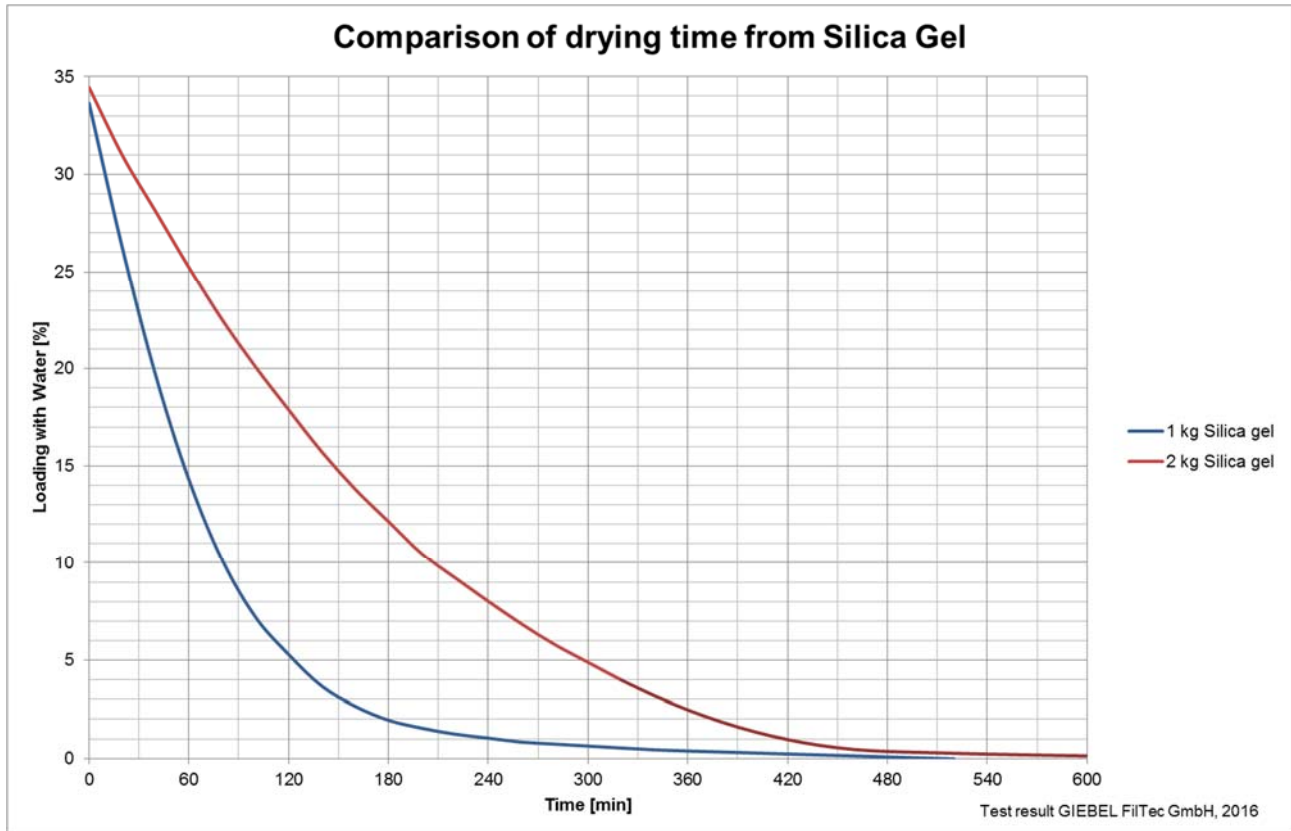


Abbildung 1: Duration and process of drying of 1,0kg and 2,0kg Silica gel.

Tabelle 1: Drying process of 1,0kg and 2,0kg Silica gel.

Regenerations Time	1,0kg Silica gel	2,0kg Silica gel
20 min.		



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60 min.		
120 min.		
180 min.		
240 min.		
300 min.		
360 min.		

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