

Pumping 2 K Silicones

Tarek Bassil 16-11-2010

1 K Vs 2 K

One Component	Two Component
<p>Ready to use Base and catalyst mixed together Silicone dispensing equipment not needed</p>	<p>Mixing needed Base and catalyst are separate Silicone 2 part mixture needed</p>
<p>Moisture and temperature dependent. Cures slowly with less moisture even at high temperature. More moisture, higher temperature, faster the curing and vice versa.</p>	<p>Moisture independent. Elevated temperature may accelerate curing to a limited extent, but may not accelerate the adhesion to the substrates</p>
<p>Evolves acid, alcohol, Oxime vapors while curing</p>	<p>No gases evolved during curing process</p>
<p>Adhesion development time 7 to 14 days</p>	<p>80% adhesion strength is developed in 24 hrs</p>
<p>Tip time 7 days, bite size dependent</p>	<p>Tip time 12 to 18 hrs irrespective of bite size</p>
<p>Material quality checks not needed</p>	<p>Quality checks needed like butterfly test, snap test, machine ratio check etc.</p>
<p>Available in 300ml ctgs and 600ml sausages</p>	<p>Available in 265kgs base and 20kg</p>
<p>For a 8X6 mm bite, one can get 4 running meters per 300 ml cartridge.</p>	<p>For 8X6 bite, one kit gives 4000 running meters, including 5% wastage</p>

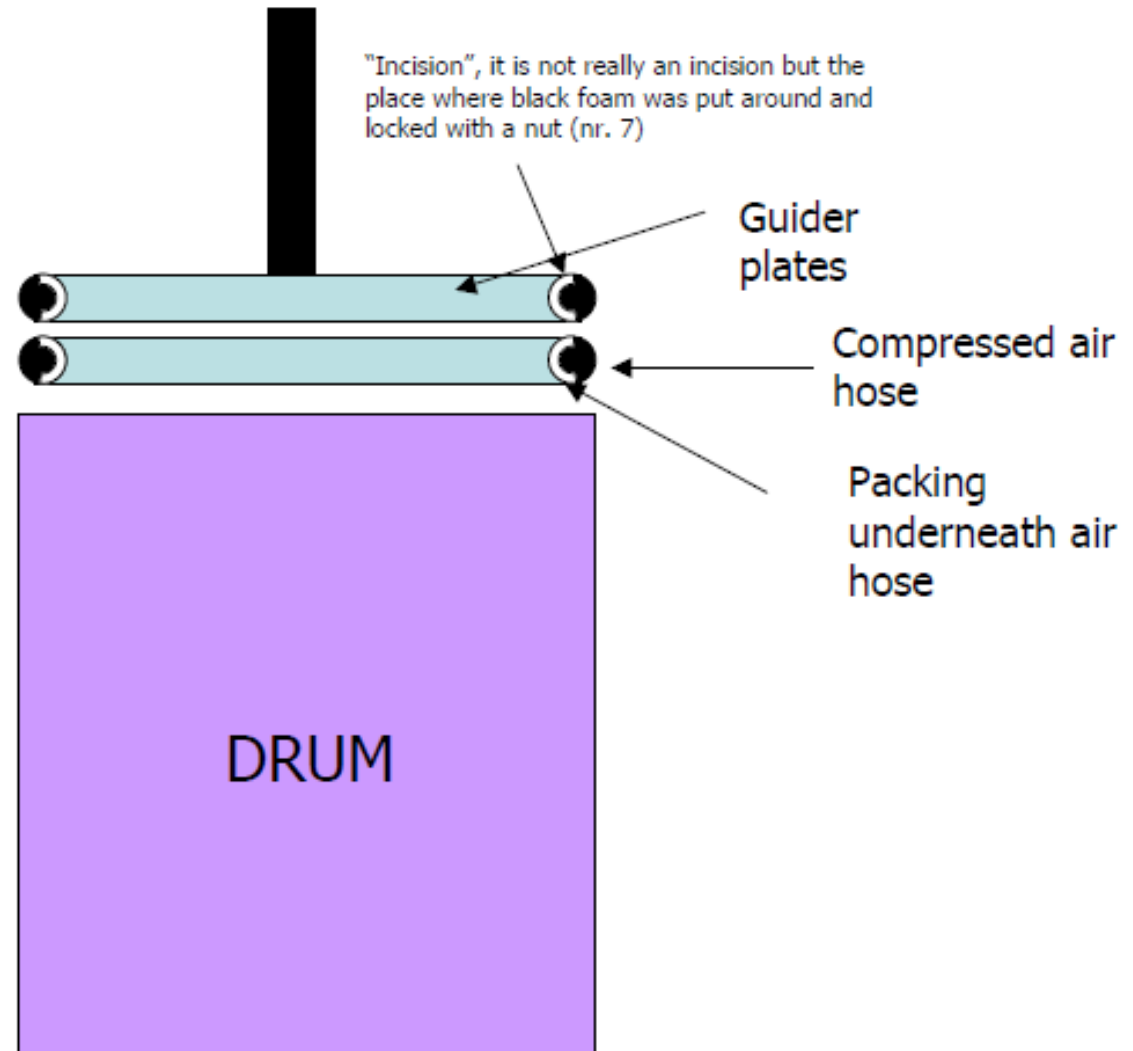
2 K Pump – Leakage issues



2 K Pump – Potential solutions for Leakage

- How to improve the seal of the plunger gaskets

Both black foam rings have an "incision" where you can put something in between, it is rather small but it certainly is there. You can pull that a bit out and you will find a nut (nr 7). With a nut driver you can unscrew that and get the foam ring from the plate. Then you can put the rubber seal which I send on the plate. And put on the black foam ring again. Screw the nut back and problem must be solved.



2 K Pump issues



2 K Pump issues



Different types of pumps

Name	Origin	Drum Type	Ratio range by vol
Lisec	Austria	Euro	7.0 – 12.5 : 1
Bystronic	German?	Euro	6.0 – 13.0 : 1
Reinhardt	German	Euro	6.0 – 12.0 : 1
Graco	USA	US	6.2 – 13.5 : 1
H&G	USA	US	10.0 : 1 (fixed)
CYH	China	US	6.2 – 13.5 : 1
IGIS	Korea	US	7.0 – 12.5 :1
	Recommend mixing ratio range		7.0 – 10: 1 (9.5-14:1)

	European	US	Lisec
Drum diameter	570mm	572mm	570mm
Pail diameter	280mm	288mm	

	Pressure (bar)		Hose Diameter (mm)	
	Part A	Part B	Part A	Part B
Lisec Tal50	~270	~270	30	4
Lisec Tal60	~270	~270	30	8
Reinhardt	No info	No info	30	8

Difference in pressure of material should not be more than 30 bar
 Equal pressure ensure both A and B part finish the same time

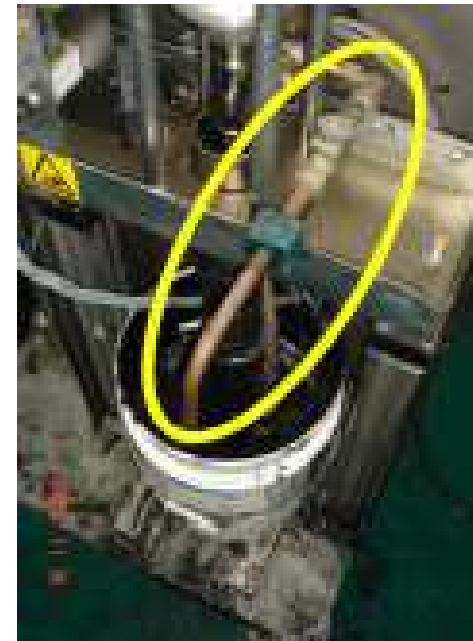
Lisec Tal 60 - Preparation

Quick Checklist before Production



Check pump pressure:
Lisec pump machine is designed with mechanical technology by air pressure. Pressure should be set around 80~130 bar, which can be adjusted by air valve.

Air Release for Part B
Part B is settled on pump after releasing air or bubble from pipe.



Lisec Tal 60 - Preparation

Quick Checklist before Production



Part B Filter Cleaning:

Part B may develop crystals on its surface when exposed to moisture, that is why its filter should be cleaned up every two weeks.



Routine cleaning for static mixer:

The static mixer should be cleaned every other day, to make sure part A and B mixing is done properly. Signals of improper mixing may show up as white strips or lines during the butterfly test

Lisec Tal 60 - Preparation

Quick Checklist before Production

Check Mixing Ratio:

Lisec pump machine is designed to extrude out by scale of volume. Weight mix ratio should be checked before mass production (after exchange between volume~weight).



Lisec Tal 60 - Preparation

Quick Checklist before Production

Check Mixing Ratio:

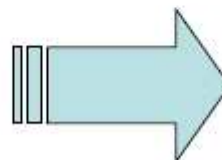
Lisec pump machine is designed to extrude out by scale of volume. Weight mix ratio should be checked before mass production (after exchange between volume~weight).



Original scale

Mix ratio
By volume 8.3 :1

exchange to
By weight 11.4:1



Adjusted scale

Mix ratio
By volume 8.7:1

exchange to
By weight 12 :1

Calibrate Lisec pump of mix ratio by weight of 12:1

Lisec Tal 60 - Preparation

Quick Checklist before Production



Original scale
Mixing ratio by volume is 8.3:1
(11.4:1 by weight), need to fix @
8.7:1 (12:1 by weight)



Before calibrating mix rate, suck
pipe is vertical, parallel by pump
of part A.



Loose 10 screws at bottom side
of scale (not need to take away
screws).



Adjust screw bolt of scale with a
suitable spanner, move scale
from 8.4 to 8.7.



Adjusted scale
After calibration, scale shows
8.7:1 by volume (12:1 by weight)



After Adjusting scale, suck pipe
moves onward

Lisec Tal 60 - Preparation

Quick Checklist before Production



Adjust scale bolt of suck pipe by spanner, try to restore suck pipe at vertical position.



After adjusting, scale is same as that on suck pipe.



Adjust scale bolt by spanner, Try to restore suck pipe at vertical position.



Fasten 10 screws at bottom side of scale.



After calibrating, test the mixing ration by weight(need to extrude part A&B because of bubble, particles existing in the pipe)

Lisec Tal 60 - Preparation

Quick Checklist before Production



Check the mixing ration of part A&B.
A: 120g / B:10g

Exchange list by weight & volume

Mixing ratio	
By volume	By weight
7.3	10:1
8.0	11:1
8.7	12:1
9.5	13:1

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