

ALVIS Calibration procedures

To access the Plast Control service screens you must do the following: Go to the Alpine Profile measurement screen and pull out the keyboard. Press ctrl and escape at the same time, which will show the start button on the bottom left side of the screen. Select the small icon just to the right of the start tab, which will have a small pencil in it, which gives you access to the desktops. Now select the desktop for Alpine service and the Plast Control service screen should automatically open up. Select service and enter the password, which is 1.

1) Calibration of the throughput measurement.....every 6 months

- a) Hopper must be completely emptied and ensure the hopper is hanging freely from the hooks on the loadcell.
- b) Go to service menu (parameter service>parameter thru put>online thru put>press #4) note the MRN of the hopper to be calibrated and is displayed in 1000th of a pound (1000 = 1lb 11365 = 11.365lb's).
- c) Place a precisely defined calibration weight in the hopper (or on top of the hopper centered as good as possible) and note the new MRN weight. This total weight will now be the hopper and the weight in grams or 1000th of a pound if measurement is not metric.
- d) Subtract the empty hopper weight from the calibration & hopper weight. If the difference is greater than 15 grams or .02 ounces, then the above procedure should be performed again. If the hopper is still off by greater than 15 grams or .02 ounces, the hopper should be calibrated.
- e) The new MVSL is calculated as follows: Actual weight of calibration weight divided by the computed difference times the hopper MVSL.

Example: If measuring in pounds. Empty hopper MRN is 5875 and when a 10lb calibration weight is added to the hopper the MRN is 15925. Subtracting the empty hopper weight from the hopper & calibration weight results in a difference of 10050. Now divide the calibration weight by the difference. $10000/10050 = .995$ Now go to parameter thru put>parameter MRN> select the correct hopper weight MRN and multiply the MVSL # by the correction factor of .995 resulting in a new MVSL number that normally is between 98 and 102. Once this new number has been entered, you must save with the parameter user save allowing the computer to remember it if power should go out.

f) Once this calibration procedure has been completed, the system can be put back in production. The calibration of the hoppers can now be verified while the line is running. A core should be weighed and the system put in manual mode to keep the extruder at the same rpm. Accurately record the *EXACT* start and stop time of your test roll (at least ten minutes with the more time allowed the better the accuracy will be. As soon as the production time starts, reset the summing report (service > reset summing report) and the system will calculate the average lb/hr during the test. Compare this calculated lb/hr average with your actual lb/hr (minus the core weight) and if the difference is less than 1%, you are done. If it is more than the accepted level a system wide correction is needed with the parameter MVSLT under system settings.

Example: Net actual is 439.52 lb/hr with a production time of 26.25 minutes. $26 \times 60 + 25 = 1585$ seconds. $439.52 \times 3600 / 1585 = 998$ lb/hr is the actual. PC display was 982 lb/hr, which is a difference of 1.5% heavier. The MVSLT must be changed by this amount. If it starts at a value of 0, change it to a 100 and then add the 1.5 since the actual was heavier than the displayed amount. . In this case the new number is 101.5. You should see a change in the total lb/hr on the status page on the next through put update. Verify it went in the correct direction and save the parameter.

2) Calibration of the lb/kft

- a) The best way to check this, is to place the system in the manual mode, make a note of the Plast-Control displayed lb/kft and take a 12-foot sample from the roll. Trim this sample to a **perfect** 10 foot piece from the machine direction and weigh it on an accurate scale. Multiply this value by 100, which will give you a lb/kft and compare this to the displayed Plast-Control weight. A difference between the actual and the PC could be due to the shrinkage caused by the difference between the Primary and Secondary nips speeds. This is normally between 2 and 6% for high-density film. A manual shrink factor can be added to the target entry page or an auto shrink calculation can be installed (\$1500 + u/f or encoder/wheel).
- b) The lb/kft can be corrected without a shrink factor by adjusting the MVSL parameter for MRN of the haul-off. If the lb/kft were 5% heavier than PC indicated, then the MVSL would be changed from 100 to 105. This will correct the lb/kft but will cause the haul-off speed shown on Plast-Control to be different than the hand-tach speed.
- c) An alternative to this method is to take the known lb/kft and subtract the displayed Plast-Control lb/kft and then divide this by the known lb/kft. Multiply this by the parameter CVGM (parameter thruput > parameter tpt system > parameter settings > CVGM) and add this result to the existing CVGM. If the actual is heavier than the displayed value, decrease this amount from the existing amount. If the actual is less than the displayed amount, increase this amount from the CVGM.