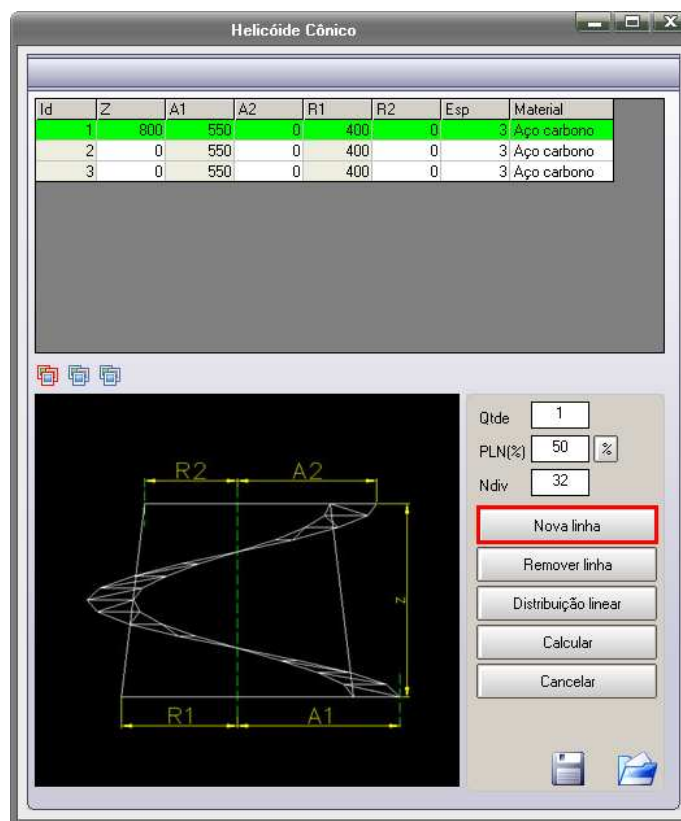


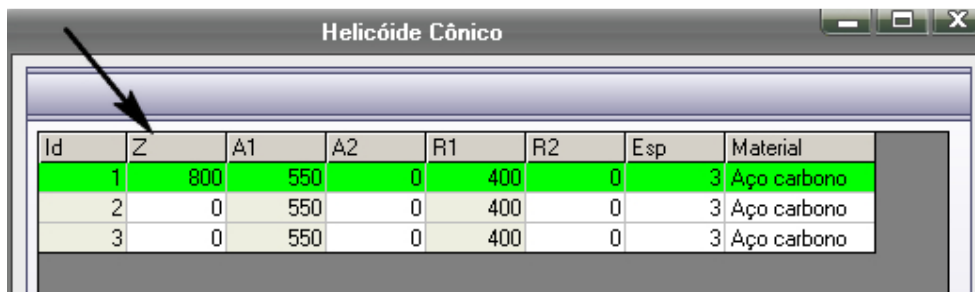
**Procedure for the calculus of the Conical Helicoid – 059 CALDsoft7.**

The Conical Helicoid is one of the shapes that posses the screen of entry of data different of the others on CALDsoft7. This shape does not calculate the unfolding of the "blank" part of the 3D model, thus the cone is not calculated.

1- In the screen of entry of data, the variable 'Id' corresponds to the number of spins you want for your Helicoid, to add new lines click in 'New line'. You may also remove the lines, clicking in the button 'Remove line';



2- The variable 'Z' equals to the height of the Helicoid in each Id, which means, in each one of the spins you may determinate a different height;



3- The variables 'A1' and 'A2' correspond to the radius of your Helicoid. This ray is measured from the center of the cone according to the screen of entry of data. The values of 'A1' and 'A2' will be always related, for this reason the column 'A2' must be always filled with the value desired for each spin of the Helicoid. In the following spin, the value of 'A1' will be the value of 'A2' in the previous spin, observe in the image:

Id	Z	A1	A2	R1	R2	Esp	Material
1	500	800	500	500	400	3	Aço carbono
2	0	500	0	400	0	3	Aço carbono
3	0	900	0	400	0	3	Aço carbono
4	0	900	0	400	0	3	Aço carbono
5	0	900	0	400	0	3	Aço carbono
6	0	900	0	400	0	3	Aço carbono
7	300	900	100	400	0	3	Aço carbono

4- The values of 'R1' and 'R2', respectively, refer to the rays of the base cone of your Helicoid. The 'R1' is the initial value and 'R2' the final value. In the same way as in 'A1' and 'A2', the values of 'R1' and 'R2' are always related, so that in the following spin the value of 'R1' will be the value of 'R2' in the previous spin.

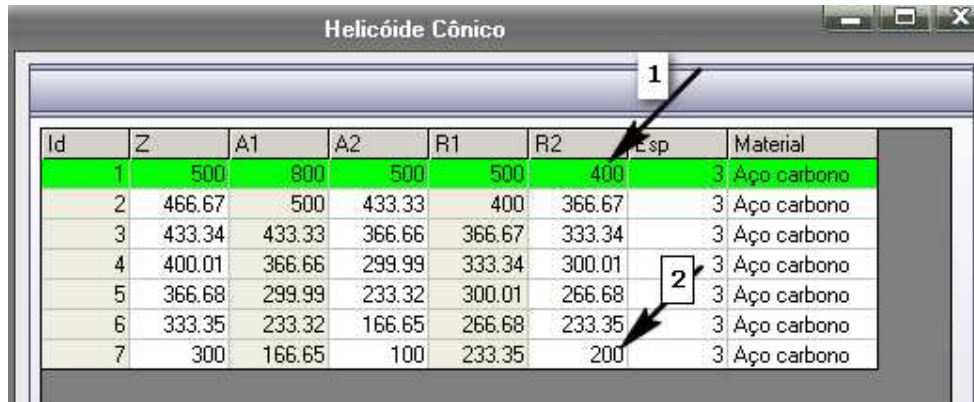
Id	Z	A1	A2	R1	R2	Esp	Material
1	500	800	500	500	400	3	Aço carbono
2	0	500	0	400	0	3	Aço carbono
3	0	900	0	400	0	3	Aço carbono
4	0	900	0	400	0	3	Aço carbono
5	0	900	0	400	0	3	Aço carbono
6	0	900	0	400	0	3	Aço carbono
7	300	900	100	400	0	3	Aço carbono

5- Now the linear distribution is a good option when the user does not possess all the measures of his/her part, for example, if he/she possesses: quantity of spins, total height and the values of the initial and final radius.

Id	Z	A1	A2	R1	R2	Esp	Material
1	500	800	500	500	400	3	Aço carbono
2	0	500	0	400	0	3	Aço carbono
3	0	0	0	0	0	3	Aço carbono
4	0	0	0	0	0	3	Aço carbono
5	0	0	0	0	0	3	Aço carbono
6	0	0	0	0	0	3	Aço carbono
7	300	0	100	0	200	3	Aço carbono

The distribution, in this case, may be done in the cells which can be seen in the color 'white'. Observe in the image above that 'A1' and 'R1' are in other tonality of color, as their values depend upon 'A2' and 'R2' respectively.

The user must then click in 'Linear distribution' and follow the orientation of the software clicking in the first cell desired, in other words, in the field where the first value is and then select the field where the last value is. Corresponds to the variable in question:



Id	Z	A1	A2	R1	R2	Esp	Material
1	500	800	500	500	400	3	Aço carbono
2	466.67	500	433.33	400	366.67	3	Aço carbono
3	433.34	433.33	366.66	366.67	333.34	3	Aço carbono
4	400.01	366.66	299.99	333.34	300.01	3	Aço carbono
5	366.68	299.99	233.32	300.01	266.68	3	Aço carbono
6	333.35	233.32	166.65	266.68	233.35	3	Aço carbono
7	300	166.65	100	233.35	200	3	Aço carbono

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