PLPAK NEWSLETTER
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# Efficient Design of Silo's Foundation

The BE4E consulting services Team (services@be4e.com) has recently asked an accurate structural analysis and design of a silo's foundation using the PLPAK & PLDesign (Foundation area of 1417.1 $m^2$ , 10 load cases & 17 load combinations and envelope) . shown in all of the figures, is demostrated in the step-by-step analysis revealed below. The procedure is initiated by slab model generation on the PLPAK (Figure 1) and completed by the illustration of straining actions (Figure 9). The PLDesign was use as in Figure 10 to show the envelope between load combinations. Figures 11 shows design results produced from the PLDesign. The complete analysis and design processes took less than one working day from our services engineer.

Figure 1: Silo's Foundation in the PLGen

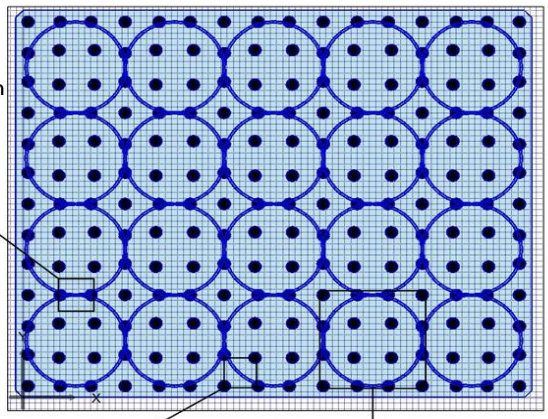


Figure 2: The intersection between silo's wall

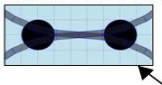
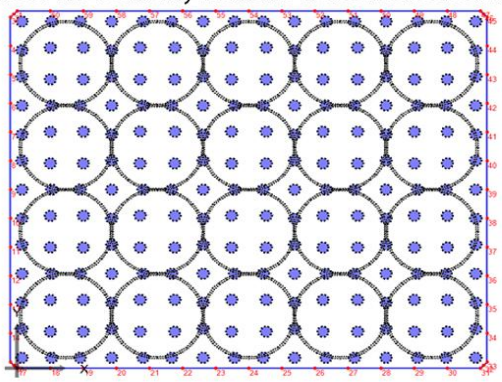


Figure 5: The Boundary Elements nodes in silo's foundation



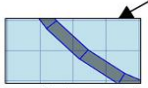


Figure 3: Silo's wall thickness inserted in the model

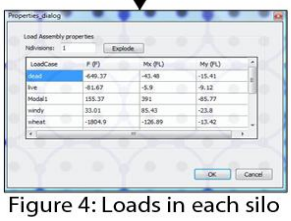
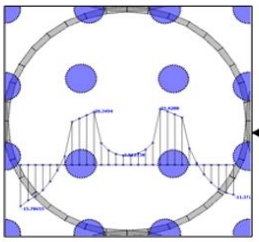


Figure 4: Loads in each silo



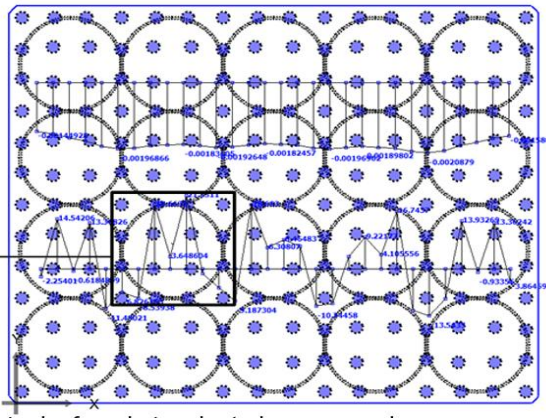


Figure 6: The strips in the foundation don't show any peaks

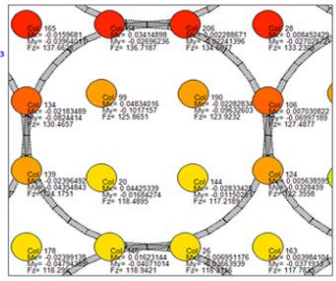


Figure 7: Pile reactions due to loading cases

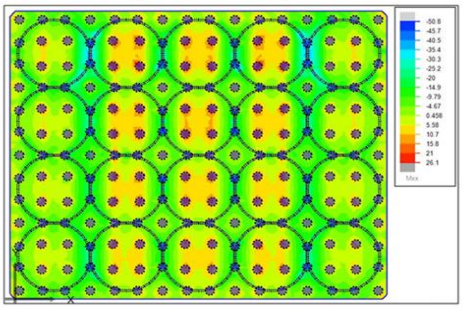


Figure 8: Moment along the x-direction(Mxx)

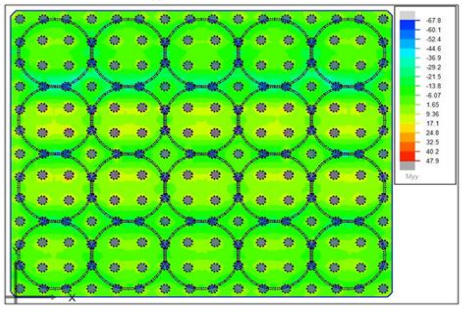


Figure 9: Moment along the y-direction(Myy)

## SPECIAL OFFER

***Special prices are available exclusively for academics!***

***CONTACT:***

***Information about the PLPAK: info@be4e.com***

***Courses, seminars & consulting, webinars: services@be4e.com***

***Sales: sales@be4e.com***

***Research and developments: RnD@be4e.com***

***Customer support: support@be4e.com***

***DEVELOPMENT***

***The PLPAK software is in constant development to meet the needs of industrial and research purposes. Updates to the software will be posted monthly.***

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***You can now register on our website for more exclusive features related to boundary element analysis in structural engineering. Connect via this link: www.be4e.com , or you could use the following code on the right .***

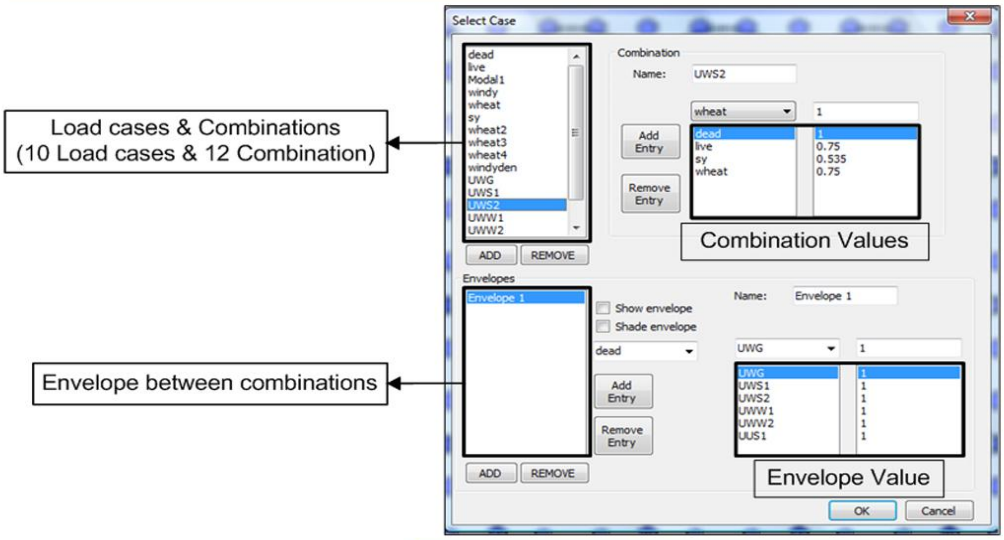



Figure 10 : Load combinations and envelopes window in PLDesign.

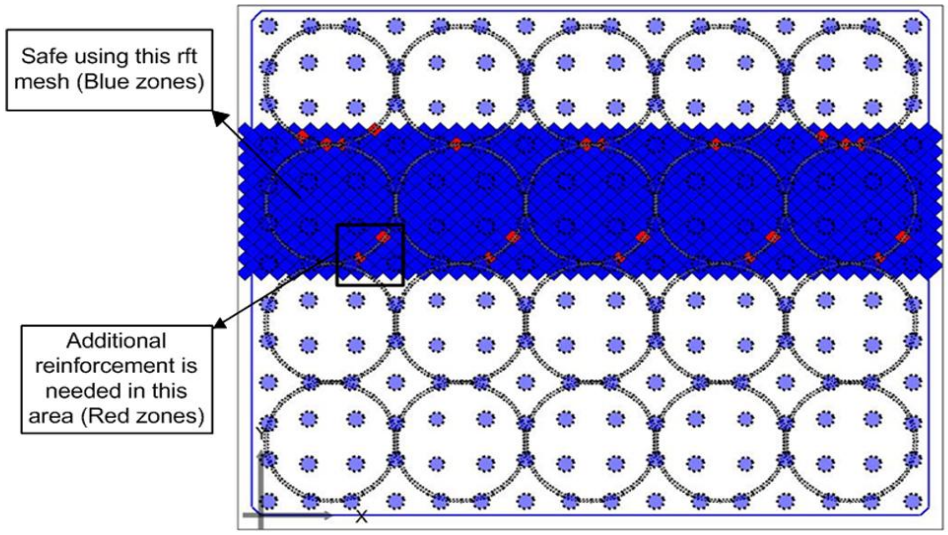


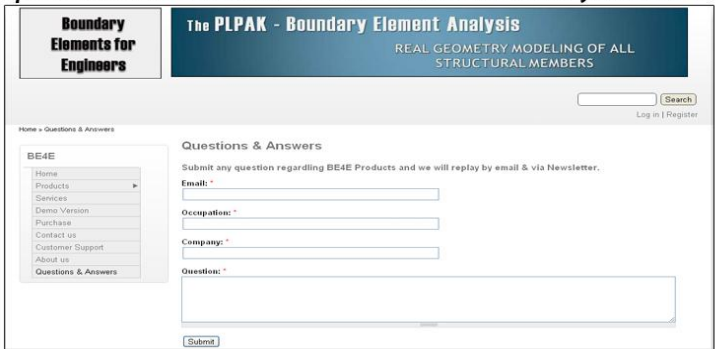

Figure 11 :Main mesh and additional rft calculated in the PLDesign.

## PLPAK at NTUA, Greece

BE4E members had a visit to *Institute of Structural Analysis and Seismic Research NTUA*, Athens, Greece. Several meetings were held between the well-known Prof John T. Katsikadelis of NTUA (http://users.ntua.gr/jkats/), and Prof Rashed (yrashed@be4e.com) of BE4E to discuss collaborative research work; the picture was taken in the office of Prof Katsikadelis at NTUA. Prof Katsikadelis is very well-known in the area of structural analysis and dynamics especially using the boundary element methods. He is founder of several techniques used in BEM; including the Analog Equation Method.

## *In need of more questions answered?*

**We are always on the alert to answer your queries and support your smooth transition to a better boundary element sense in analysis. Send us any queries or comments to our new [Questions & Answers] page and await our reply in the coming issue! *http://www.be4e.com/site/node/56* The form which you can fill out is shown betow:**

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