

- increasing of  $K_n$  will diminish penetration but may cause ill-conditioning of the system.

Window 2-648

### Window 2-649: Strength parameters inherited from adjacent continuum

If  **Inherit data from continuum materials** is set ON then user may use a single contact material for all contact elements along the interface independently on number of different soil layers (for instance sheet-pile wall installed in the layered subsoil). By pressing the button **Setup** one gets the access to the sorted (by numbers) list of materials for continuum and may set multipliers for  $\tan(\phi)$ ,  $\tan(\psi)$  and  $c$  to be used to compute plastic parameters in the contact interface adjacent to that material. This list is shown in the figure below

The 'Nonlinear Contact' dialog box shows the 'Inherit data from adjacent continuum materials' option selected. A blue arrow points from the 'Setup' button in the dialog to the 'Contact properties' table below.

	Material	Model	Original continuum strength parameters			Standard Interface data			Piles interface data				
			Phi [deg]	c [kN/m <sup>2</sup> ]	Psi [deg]	tg(Phi) mult.	c mult.	tg(Psi) mult.	tg(Phi) mult.	c mult.	tg(Psi) mult.	Tensile bearing capacity qt [kN/m <sup>2</sup> ]	Compressive bearing capacity qc [kN/m <sup>2</sup> ]
1	concrete	Elastic	30	0	0	0.66	0	0	0.6	0	0.6	0	1e+038
2	dense sand	Mohr-Coulomb	30	20	0	0.66	0	0	0.6	0	0.6	0	1e+038
3	Clay	HS-small strain stiffness	30	0	0	0.66	0	0	0.6	0	0.6	0	1e+038

#### Remarks:

1. Multipliers to be set for standard contact interface are highlighted by yellow color
2. The current values of plastic parameters for models designed for continuum are listed in cells Original continuum strength parameters; if a given model is described by means of friction angle, cohesion and dilatancy angle (like M-C model, Cap, D-P or HS-small) then these original strength parameters are placed in non-editable cells Standard interface data (filled by a gray color); for other models (like Elastic) user must set the reference strength parameters (in this case cells are white and can be edited)
3. The friction angle for the interface is computed as  $\tan(\phi^{interface}) = \tan(\phi^{soil}) \times \text{multiplier}^{\tan(\phi)}$ ; same procedure is applied to the dilatancy angle and cohesion
4. Setting of current contact strength parameters is made in the calculation module at each time step (note that strength parameters for continuum models may vary in time)
5. In the large deformations multiplier for cohesion is not meaningful
6. This list is common for all contact materials (including pile interfaces and pile foot interfaces)

Window 2-649