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<?xml version="1.0" encoding="UTF-8" ?>
<case app="GenCase4 v4.0.077 (14-08-2018)" date="31-08-2018 14:00:20">
    <casedef>
        <constantsdef>
            <lattice bound="1" fluid="1" />
            <gravity x="0" y="0" z="-9.81" comment="Gravitational acceleration" units_comment="m/s^2" />
            <rhop0 value="5000" comment="Reference density of the fluid" units_comment="kg/m^3" />
            <hswl value="0" auto="true" comment="Maximum still water level to calculate speedofsound using coefsound" units_comment="metres (m)" />
            <gamma value="7" comment="Polytropic constant for water used in the state equation" />
            <speedsystem value="0" auto="true" comment="Maximum system speed (by default the dam-break propagation is used)" />
            <coefsound value="20" comment="Coefficient to multiply speedsystem" />
            <speedsound value="0" auto="true" comment="Speed of sound to use in the simulation (by default speedofsound=coefsound*speedsystem)" />
            <coefh value="1" comment="Coefficient to calculate the smoothing length (h=coefh*sqrt(3*dp^2) in 3D)" />
            <cflnumber value="0.5" comment="Coefficient to multiply dt" />
            <h value="0" auto="true" units_comment="metres (m)" />
            <b value="0" auto="true" units_comment="Pascal (Pa)" />
            <massbound value="0" auto="true" units_comment="kg" />
            <massfluid value="0" auto="true" units_comment="kg" />
        </constantsdef>
        <mkconfig boundcount="241" fluidcount="9">
        </mkconfig>
        <geometry>
            <definition dp="0.001" comment="Initial inter-particle distance" units_comment="metres (m)">
                <pointmin x="-0.5" y="-0.5" z="-0.5" />
                <pointmax x="0.5" y="0.5" z="0.5" />
            </definition>
            <commands>
                <mainlist>
                <setshapemode>actual | dp | bound</setshapemode>
                <setmkbound mk="0"/>
                <drawfilestl file="Thickness.stl" objname="Thickness" autofill="false">
                    <drawscale x="0.001" y="0.001" z="0.001" />
                </drawfilestl>
                <setmkfluid mk="2"/>
                <setdrawmode mode="full"/>
                <drawcylinder radius="0.00675" objname="Cylinder002">
                    <point x="0.0" y="0.005" z="-0.067" />
                    <point x="0.0" y="0.005" z="-0.007000000000000006" />
                </drawcylinder>
                <setmkbound mk="1"/>
                <setdrawmode mode="full"/>
                <drawcylinder radius="0.00745" objname="Cylinder003">
                    <point x="0.0" y="0.005" z="-0.0685" />
                    <point x="0.0" y="0.005" z="-0.0675" />
                </drawcylinder>
                <setmkbound mk="2"/>
                <drawfilestl file="Thickness001.stl" objname="Thickness001" autofill="false">
                    <drawscale x="0.001" y="0.001" z="0.001" />
                </drawfilestl>
                <shapeout file="" />
                </mainlist>
            </commands>
        </geometry>
        <motion>
            <objreal ref="1">
                <begin mov="1" start="0"/>
                <mvrect id="1" duration="6.5" next="1">
                    <vel x="0.0" y="0.0" z="0.005792" units_comment="m/s" />
                </mvrect>
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            </objreal>
        </motion>
    </casedef>
    <execution>
        <special>
            <nnphases> %Defines non-newtonian phases parameters
                <phase mkfluid="2">
                    <rhop value="5000" comment="Density of the phase"
                    />
                    <visco value="2.88e-4" comment="Kinematic viscosity (or
                    consistency index) value for phase (m2/s)" />
                    <tau_yield value="25" comment="User defined maximum specific
                    yield stress of phase (Pa m3/kg)" />
                    <HBP_m value="0.3938" comment="Use 0 to reduce Newtonian liquid,
                    order of 10 for power law and order of 100 for Bingham (sec) " />
                    <HBP_n value="0.8" comment="Use 1 to reduce to Newtonian, <1 for
                    shear thinning >1 for shear thickenning " />
                    <phasetype value="0" comment="Non-Newtonian=0 only option in
                    v5.0" />
                </phase>
            </nnphases>
        </special>
         <parameters>
            <parameter key="SavePosDouble" value="0" comment="Saves particle
            position using double precision (default=0)" />
            <parameter key="StepAlgorithm" value="1" comment="Step Algorithm
            1:Verlet, 2:Symplectic (default=1)" />
            <parameter key="VerletSteps" value="20" comment="Verlet only: Number of
            steps to apply Euler timestepping (default=40)" />
            <parameter key="Kernel" value="2" comment="Interaction Kernel 1:Cubic
            Spline, 2:Wendland (default=2)" />
            %Choice of reology treatment, velocity gradient calculation and
            viscosity treatment
            <parameter key="RheologyTreatment" value="2" comment="Reology
            formulation 1:Single-phase classic, 2: Single and multi-phase"
            />
            <parameter key="VelocityGradientType" value="1" comment="Velocity
            gradient formulation 1:FDA, 2:SPH" />
            <parameter key="ViscoTreatment" value="2" comment="Viscosity formulation
            1:Artificial, 2:Laminar+SPS, 3:Constitutive  eq."
            />
            %Wall boundary viscosity or/and artificial viscosity if ViscoTreatment
            is 1:Artificial
            <parameter key="Visco" value="0.05" comment="Viscosity value" />    %
            Note alpha can depend on the resolution when using artificial
            viscosity
            <parameter key="ViscoBoundFactor" value="1" comment="Multiply viscosity
            value with boundary (default=1)" />
            <parameter key="DensityDT" value="3" comment="Density Diffusion Term
            0:None, 1:Molteni, 2:Fourtakas, 3:Fourtakas(full) (default=0)" />
            <parameter key="DensityDTvalue" value="0.1" comment="DDT value
            (default=0.1)" />
            <parameter key="Shifting" value="3" comment="Shifting mode 0:None,
            1:Ignore bound, 2:Ignore fixed, 3:Full (default=0)" />
            <parameter key="ShiftCoef" value="-2" comment="Coefficient for shifting
            computation (default=-2)" />
            <parameter key="ShiftTFS" value="2.75" comment="Threshold to detect free
            surface. Typically 1.5 for 2D and 2.75 for 3D (default=0)" />
            <parameter key="RigidAlgorithm" value="1" comment="Rigid Algorithm
            0:collision-free, 1:SPH, 2:DEM, 3:Chrono (default=1)" />
            <parameter key="FtPause" value="0.0" comment="Time to freeze the
            floatings at simulation start (warmup) (default=0)"
            units_comment="seconds" />
            <parameter key="CoefDtMin" value="0.05" comment="Coefficient to
            calculate minimum time step dtmin=coefdtmin*h/speedsound (default=0.05)"
            />
            <parameter key="RelaxationDt" value="0.2" comment="Relaxation parameter
            for the viscous time step restricition(default=0.2)" />
            <parameter key="DtIni" value="0" comment="Initial time step. Use 0 to
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            defult use (default=h/speedsound)" units_comment="seconds" />
98          <parameter key="DtMin" value="0" comment="Minimum time step. Use 0 to
            defult use (default=coefdtmin*h/speedsound)" units_comment="seconds" />
99          <parameter key="DtFixed" value="0" comment="Fixed Dt value. Use 0 to
            disable (default=disabled)" units_comment="seconds" />
100         <parameter key="DtFixedFile" value="NONE" comment="Dt values are loaded
            from file. Use NONE to disable (default=disabled)"
            units_comment="milliseconds (ms)" />
101         <parameter key="DtAllParticles" value="0" comment="Velocity of particles
            used to calculate DT. 1:All, 0:Only fluid/floating (default=0)" />
102         <parameter key="TimeMax" value="6.5" comment="Time of simulation"
            units_comment="seconds" />
103         <parameter key="TimeOut" value="0.01" comment="Time out data"
            units_comment="seconds" />
104         <parameter key="PartsOutMax" value="1" comment="%/100 of fluid particles
            allowed to be excluded from domain (default=1)" units_comment="decimal" />
105         <parameter key="RhopOutMin" value="1000" comment="Minimum rhop valid
            (default=700)" units_comment="kg/m^3" />
106         <parameter key="RhopOutMax" value="6000" comment="Maximum rhop valid
            (default=1300)" units_comment="kg/m^3" />
107         <parameter key="XPeriodicIncZ" value="0" comment="Increase of Z with
            periodic BC" />
108         <simulationdomain comment="Defines domain of simulation (default=Uses
            minimun and maximum position of the generated particles)">
109             <posmin x="default" y="default" z="default" comment="e.g.: x=0.5,
                y=default-1, z=default-10%" />
110             <posmax x="default" y="default" z="default + 50%" />
111         </simulationdomain>
112     </parameters>
113 </execution>
114 </case>
115
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