From:	"Bhaskar Anga" <bhaskar.anga@ofb.gov.in>
Subject:	Sponsored Research
Date:	Mon, February 27, 2017 4:48 pm
To:	odc.ofmk@ofb.gov.in

Dear Sir

We are working for Ordnance Factory Medak, Hyderabad under MoD, GoI.
Our core area is the manufacture of Infantry Combat Vehicles (ICV) for Indian Army.
We have been entrusted with development of future generation ICVs. The bottom plate
configuration of these vehicles need to protected against mine blast and presently
we are working on this area.

In this regard a brief introduction of our requirement for sponsered research is
attached to this mail.

Please kindly let me know your intreset.

Kind regards
A Bhaskar
Jr Works Manager
08790525495

Attachments:

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The parameters for the equation of state for the given Aluminium Foam material are to be calculated which can then be used as input to hydrocode ANSYS AUTODYN^{TM}

Background:

A numerical analysis study using ANSYS AUTODYN^{TM} is being carried out, focusing on dynamic response behaviour of metallic sandwich structure on blast impact loading. The plate materials will be varied consisting of aluminium plate, aluminium foam and steel plate. Though the material model and properties for aluminium and steel are available in ANSYS AUTODYN^{TM} material library, the same are not available for aluminium foam.

Input Data to Autodyn:

Equation of State: P alpha

Reference density

Porous density

Porous sound speed

Initial compaction pressure

Solid compaction pressure

Compaction exponent

Solid EOS: Shock

Gruneisen coefficient

Parameter C1

Parameter S1

Parameter Quadratic S2

Relative volume, VE/V0

Relative volume, VB/V0

Parameter C2

Parameter S2

Reference Temperature

Specific Heat

Thermal Conductivity

Compaction Curve

Strength: von Mises

Shear Modulus

Yield Stress

Failure: Hydro (Pmin)

Hydro Tensile Limit

Reheal

Crack Softening

Stochastic failure

Material Cut-offs

Maximum Expansion

Minimum Density Factor

Minimum Density Factor (SPH)

Maximum Density Factor (SPH)

Minimum Sound speed

Maximum Sound speed (SPH)

Maximum Temperature