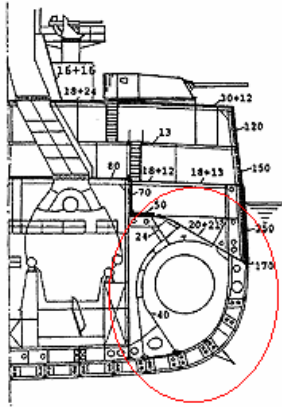


B. A. Gama, and J. W. Gillespie Jr.

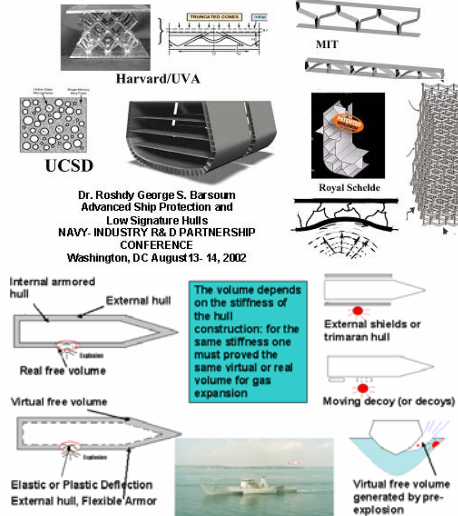
University of Delaware . Center for Composite Materials

HISTORICAL MINE BLAST SOLUTIONS



Anti-mine protection for battleships from the underwater explosion of 300-400 kg of TNT represents complex engineering construction occupying a big volume.

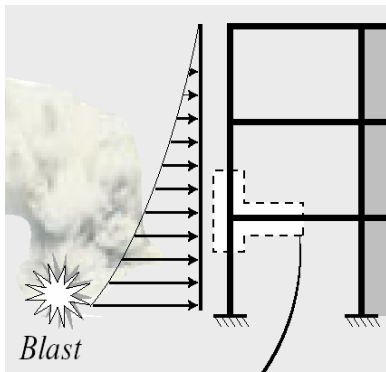
CONCEPTS FOR MINE BLAST PROTECTION



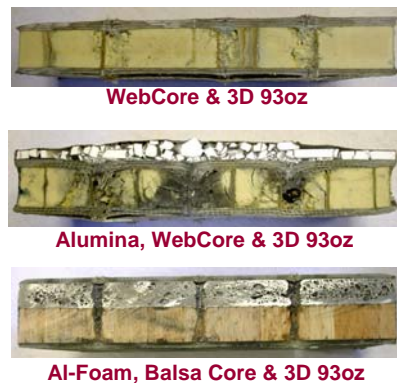
BLAST RESISTANCE IS THE KEY TO HOMELAND SECURITY AND NAVY



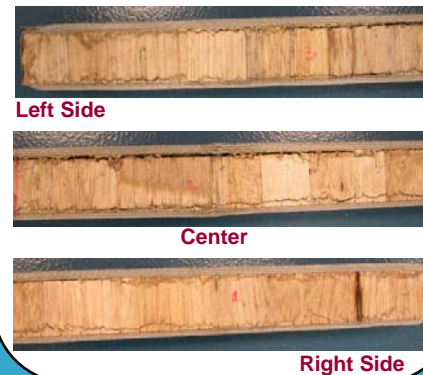
BLAST PRESSURE EFFECTS ON STRUCTURES



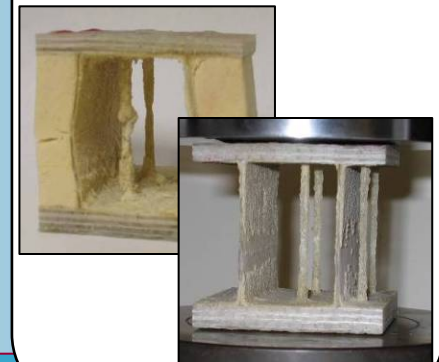
SOME CONCEPTS OF BLAST/BALLISTIC SANDWICH



MINE BLAST DAMAGE OF BASELINE E-GLASS/BC SANDWICH



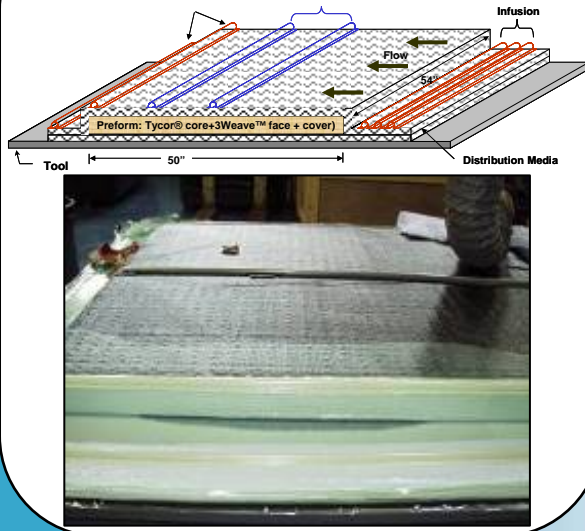
CRUSH OF 3D/WEBCORE/Z-STICCH SANDWICH



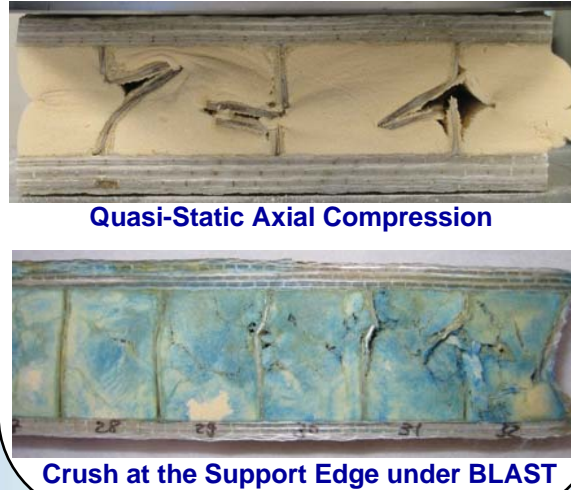
BLAST AND BALLISTIC MODELING CAPABILITIES

(Continued)

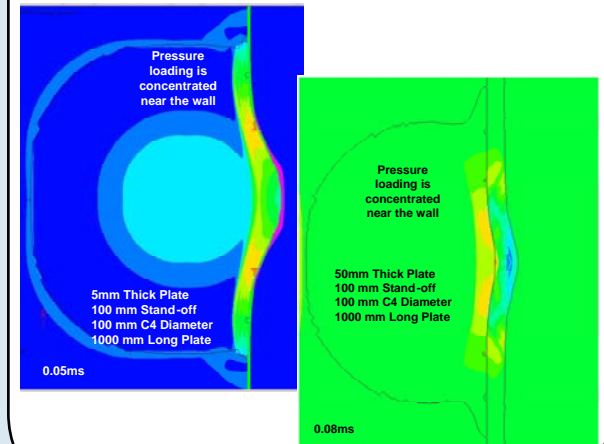
PROCESSING OF 3D OWF/WEBCORE SANDWICH COMPOSITES



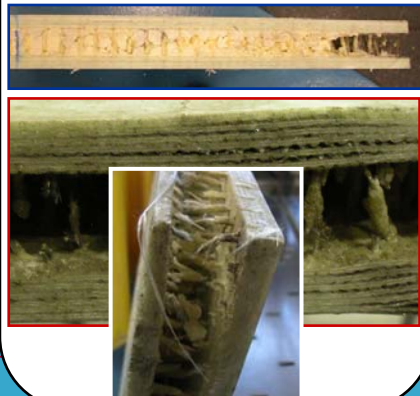
MECHANICS OF MINE BLAST DAMAGE



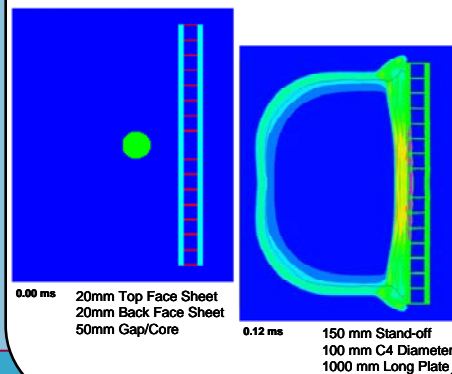
BLAST MODELING ON COMPOSITES: AUTODYN



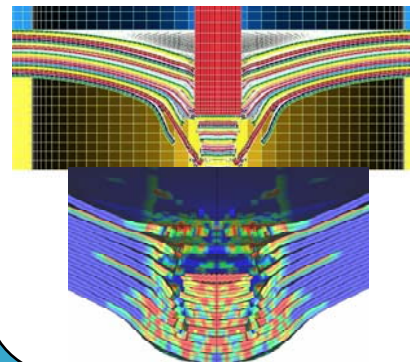
BLAST DAMAGE OF MMC TRANSONITE™



BLAST ON SANDWICH: AUTODYN



MODELING DELAMINATION AND PENETRATION: LSDYNA-MAT162



SUMMARY

- ◆ Study of the Energy Absorbing Behavior of Thick-Section and Sandwich Composites are in Progress
- ◆ Large Scale AutoDyn and LS-Dyna Analyses are Planned

ACKNOWLEDGEMENTS

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