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VARIOUS SHELTER DESIGNS FOR OUT OF AREA MISSIONS BASED ON ISO CONTAINERS

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Abstract:

Recent out of area missions of the German Armed forces unearthed the urgent need for cheap, practicable and reliable solutions to protect a large number of people against the threat of artillery and mortar grenades. Because of economical reasons it's priority objective to use indigenous materials for constructing shelters.

The WTD 52 has designed and tested several concepts with regard to different boundary conditions and threat levels. All concepts are based on world-wide commercially available 20' ISO containers.

In one case major modifications at the ISO container were done. In a primary function this ISO container provides space for transport tasks. After this it can be used as a shelter. Therefore the ISO container can be buried in almost any underground conditions.

Two designs require earthfilled containers as side protection. The roof of the ISO container is earthcovered. In one case the reinforcement of the roof rests on the earthfilled containers on both sides of the ISO container. In the other case the corners of the ISO container take the loading of the roof.

The last tested design is a two storied cluster of ISO containers, where the outer and upper ISO containers are filled with earth resp. sandbags.

The presentation shows the different designs and the results of full scale tests.