

Protecting Helicopters when it matters the MoST



From conducting special operations behind enemy lines to directing humanitarian and relief operations, helicopters today play an indispensable role for any military and law enforcement agency in modern crisis management. However, the threat landscape they operate in exposes them as an easy target for militants and enemy forces. For these sophisticated machines the threat is not just from small arms but from medium and heavy calibre rifles, machine guns and anti-aircraft guns. A chance hit to the engine, tail rotor or to the pilot can render the helicopter un-manoeuvrable, which can lead to aircraft crash and potential personnel losses in aircrew and infantry payload. This has necessitated the need to make helicopters more ballistically tolerant.

The ballistic tolerance of helicopters can be enhanced by incorporating armour solutions around the critical areas of fuselage and pilot's seat. However, fitting the aircraft with additional armour protection costs hundreds of thousands of dollars per shipset. Armour protection comes along with a great weight penalty, which affects the performance and load carrying capacity of the helicopter. In addition to that, making any structural changes to the fuselage can adversely impact helicopter's aerodynamics. Thus, mak-

ing re-certification of the helicopter for airworthiness a necessary obligation.

However, retro-fit armour solutions can play a major part in modernizing a whole fleet of similar helicopters, while giving flexibility to customize the helicopter utilization basis the mission. If the helicopter is to be deployed for combat search and rescue operation, then add-on armour kits can be mounted to provide ballistic protection. For humanitarian and relief operations, the same armour kits can be detached from the helicopter to provide additional payload carrying capability. This maximizes payload flexibility.

Retro-fit armour solutions are modular, and designed specifically for an aircraft configuration without making any significant changes to the original aircraft. MKU has pioneered in the modular design approach for helicopter armouring with their patented Modular Schutz Technik (MoST). The proprietary MoST system uses precision engineered composite armour panels along with aero-grade attachment systems. These armour kits can be mounted upon the existing structure of the helicopter without making any structural changes.

The MoST armour solution gives operational flexibility as it can be easily mounted where the helicopter mission warrants the need

of additional ballistic protection. Upon mission completion, the armour kit can be unmounted and quickly installed on another combat-ready helicopter to extend the ballistic protection. The patented MoST attachment systems enables the design platform to suit a wide range of helicopters while allowing easy maintenance. The armour panel installation on these attachments requires minimal training. Even the front-line air maintenance personnel can mount and unmount the armour system easily. Also, since the kit can be used for application in other helicopters of the same type, the cost of ownership significantly reduces.

MKU leverages the combination of MoST and Generation 6 PolyShield V6 armouring technology to build up to 40 per cent lighter and thinner armour panels. These lightweight armour panels offer protection to the helicopter from small handguns, assault rifles, armour piercing ammunitions, fragments and heavy machine guns.

In the pursuit of providing ballistic protection to the helicopters, every kilogram of weight matters. With MKU's light weight modular armour panels, a helicopter's payload carrying capacity and endurance will increase, resulting in more crew and ammunition that can be carried many extra miles, with maximum ballistic protection.