

VC POLICY

EMAS: ENGINEERED MATERIAL ARRESTING SYSTEM

INTRODUCTION

Vereinigung Cockpit has noticed a lack of safety areas at the beginning and the end of runways at many airports. According to ICAO Annex 14, 3.5 a Runway End Safety Area, (RESA) should be provided at each runway end.

Currently, this ICAO standard requires a 90m (300 feet) RESA starting from the end of the runway strip (which itself is 60m from the end of the runway) and recommends but does not require a 240m RESA beyond that. Furthermore, a RESA should provide a cleared and graded area for airplanes in the event of an airplane undershooting or overrunning the runway while also facilitating the movement of rescue and firefighting vehicles.

In certain cases for example, topography or buildings do not allow airports to provide a RESA of the required dimensions. As a countermeasure, so called Engineered Material Arresting Systems (EMAS) have been developed. These EMAS consist of materials, that are capable of stopping an aircraft within a few meters only. These materials shall be non-flammable and weatherproof and shall withstand chemicals. The most common materials currently used are foamed glass and lightweight concrete.

This system has mainly been implemented in the US; it is still rare in Europe. Meanwhile, in addition to the American Federal Aviation Administration FAA, the European pendant EASA and the International Civil Aviation Organization (ICAO) have also approved EMAS as a possible alternative to RESA.

Since 1996, the system has been installed at more than 60 airports and has helped bring twelve airplanes with a total of 284 passengers to a safe stop.

REQUESTS OF VEREINIGUNG COCKPIT:

1. Installation of EMAS

Because of the positive experiences with EMAS, Vereinigung Cockpit demands EMAS for all airports that do not have a sufficient RESA. Like a RESA, EMAS shall stop airplanes that have overshoot without damaging the aircraft. Rescue forces

shall be able to reach the airplanes without obstructions. Not only aircraft overshooting but also undershooting, thus touching down before the beginning of the landing runway, shall be taken into account. An EMAS must not have any negative effects on airplanes landing within the EMAS.

As demanded by the FAA, neither flight operations nor aerodrome's navigational systems shall be affected.

The installation of an EMAS is supposed to be a benefit for safety at airports where airplanes might collide with obstacles or encounter other adverse environments in the vicinity of the runway, i.e. slopes. It is not supposed to further exploit existing runways.

EMAS is not a substitute for a stopway!

2. Documentation of EMAS

The existence of an EMAS shall be described in the general aerodrome information. Additionally, to the known depiction on the ground chart, an EMAS should clearly be marked on aeronautical charts for arrivals and departures.

To emphasize EMAS even further, airline operators should point out the existence of EMAS in their performance computation modules provided to their pilots.

In addition, VC demands respective signs and markings at airports, including proper marking on the EMAS itself.

3. Length of EMAS

Should neither a RESA nor an EMAS be sufficient to stop an aircraft completely due to existing topography, an EMAS should still be installed. Vereinigung Cockpit demands an EMAS as long as possible to slow down airplanes as much as possible.