



Thermo Emblem

Advanced Ambulance Insignia

Applimech Ltd.



"VISIBILITY WHEN IT MATTERS"

INTRODUCTION

The Applimech ThermoEmblem is a new, innovative product that can take ambulance and other vehicle visibility to a completely new level. It is the result of several years of product development and is using high-tech materials to achieve maximum discernibility with added infrared radiation functionality in the toughest conditions in a modern thermal imaging environment. It has all the features of traditional ambulance identifying insignia but adds many new features to increase positive identification of a vehicle. There is also the option to quickly turn the sign over to hide it for special operations.

A BRIEF HISTORY OF MILITARY AMBULANCES

The history of military ambulances is as old as that of mechanically mobilised warfare. The Spaniards were the first to use ambulances beginning as early as 1487. Civilian ambulances appeared in the 1830's and carriages pulled by horses were left behind in favour of faster and more versatile vehicles with the advent of engine-driven cars.



Military ambulances have mostly been based on civilian designs but there have also been armoured versions. The vehicles have been land vehicles, boats and helicopters. However, nowadays many Armoured Personnel Carriers are also equipped as ambulances.

Throughout the history of ambulance vehicles no significant development of the identifying emblems has occurred. The emblems have typically been painted on or been applied as adhesive films. This is about to change with the Applimech ThermoEmblem.

BACKGROUND OF THE THERMOEMBLEM

Due to the increasing amount of advanced imaging solutions in use in the modern warfield and crisis areas, namely thermal imaging, the possibility of noticing vehicles has increased, especially during nighttime operations. However, positively identifying the spotted vehicles is becoming more and more important. The Applimech ThermoEmblem provides a comprehensive solution to the problem of identifying friendly vehicles, especially ambulances that can be carrying wounded soldiers back to safety

TECHNICAL ADVANCES

The main purpose of an ambulance emblem is to be as visible as possible. The ThermoEmblem has several features that increase its visibility in both daylight and in the dark of night.

The ThermoEmblem has an advanced 3M reflective film that is approved for use in traffic signs. This means its passive visibility is the best available both in daylight and when illuminated by, for example, headlights of a vehicle or the searchlight of a helicopter.



When the integrated infrared emitting circuit is turned on the shape of the insignia on the ThermoEmblem starts emitting broadband infrared radiation. The insignia stands out exceptionally from its surroundings when viewed with thermal imaging gear. There is a surface temperature difference of approximately 20°C (68°F) above ambient in any weather conditions. This enables friendly vehicles to be positively identified from a distance of several kilometres.

If mission parameters require, the emblem can be turned over to conceal the insignia. The frame and backside of the emblem is typically the same colour as the vehicle.



CONSTRUCTION

The ThermoEmblem product is made of the finest materials available and has a strong but light aluminium alloy frame. The sign is made of durable fibre-reinforced epoxy board. The ThermoEmblem is completely corrosion-resistant and its materials are also tested to be highly resistant to diverse weather conditions from the Arctic to the hottest of deserts. There are no loose parts that can be lost and it can be turned over even with winter gloves. Every ThermoEmblem is proudly made in Finland to ensure the highest possible quality.

APPLICATIONS

The ThermoEmblem is suitable for use on both armoured and soft-shell vehicles. It is easily attached using screws onto various substrates through several bolt patterns in the frame. Special adapters can also be used.

TECHNICAL SPECIFICATIONS

DIMENSIONS

Height: 544 mm
Width: 556 mm
Depth: 34 mm

MASS

2,9 kg

OPERATING VOLTAGE

24 V (nominal)
Optionally 12 V (nominal)

ELECTRICAL CONNECTION

Military connectors, insulated industrial terminals or unterminated wires, according to customer specification

THERMAL RADIATION SPECTRUM

~9-14 μm

CURRENT DRAW

~0,5 A

OPERATING TEMPERATURE

-40°C ... +60°C (-40°F ... 140°F)

STARTUP TIME

<10 seconds

DUTY CYCLE

100%

IP RATING

IP 65

DISCERNIBILITY

9/16 pixels at up to 10 km using typical -helicopter thermal imaging systems

OPTIONAL INSIGNIA AND CUSTOM OPTIONS

Our technology enables the creation of custom thermal emblems:



Working together with our graphic designers we can arrive at the best visibility solution for your insignia.

Furthermore, special mounting solutions, different physical dimensions, voltage options and colour schemes are available at request. Please contact us for more information.

NATO EQUIPMENT REGISTRY

The ThermoEmblem NCAGE manufacturer code in the NATO equipment registry is A684G. The ThermoEmblem fulfills and exceeds the demands as specified by STANAG 2931

REFERENCES

Swedish Army
www.forsvarsmakten.se/en/
Patria
www.patria.fi/en/

ThermoEmblem

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