



Atmospheric Self Inflating Immersion Suit



Aircrew Protection for Patrol and Transport Aircraft; the Next Generation

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Mustang Survival



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Core Competencies



Flotation Protection



Hypothermia Protection

Acceleration Protection



Responsive Solutions



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Quick Don Immersion Suits



▪ Suit Characteristics

- Rapid donning
- Single layer
- Thermal and fire protection
- Easily stowed and accessed
- Consistent measurable performance
- Equipment compatibility
- Safe egress

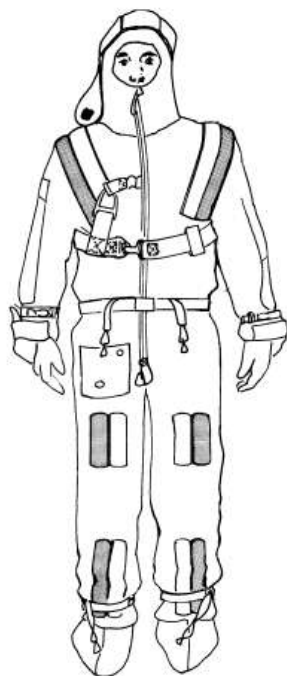
Quick-Don Technologies



THEN



NOW



CWU-60P



MSD730

Limitations of Current Suits



- **Lack of Fire Retardancy**
- **Excess bulk and/or weight**
- **Lack of inherent thermal protection**
- **Maintenance Expense**



- **Dec 1993: Mustang Survival concludes a 2-year Defence Industrial Research project, “Research and Design of Alternative Cold Water Immersion Suits”**
- **Goal – Identify and investigate new technologies and design concepts that would lead to the development of an immersion suit with:**
 - **Enhanced predictable thermal performance**
 - **Very low weight and volume when packaged**
- **Result – Mustang develops a new prototype quick-don immersion suit technology**

The Mustang Solution



- **MSD730 Atmospheric self inflating Immersion Suit**

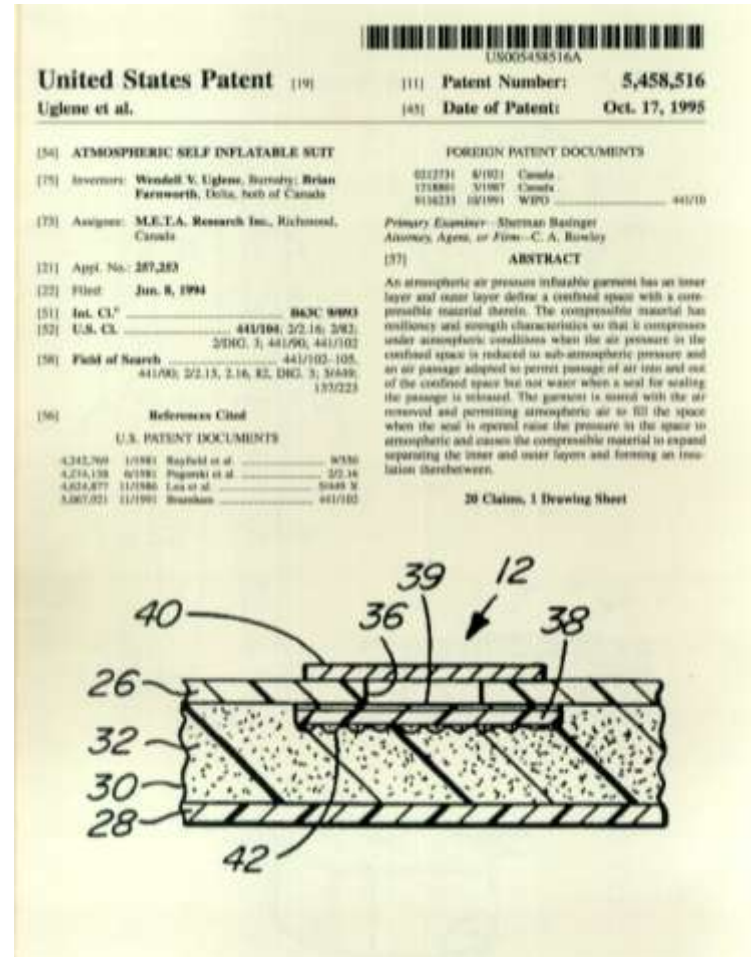




Self Inflating Technology



- What is it?
- How it works



MSD730 Features



- **Atmospheric self-inflating technology**
- **Single Component**
- **Open-celled foam in between two independent water-proof layers**
- **Flame resistance introduced, anti-static Nomex™ IIIA**
- **Thermal protective inflatable mitts and hood**
- **Environmental packaging**

Features Produce Results

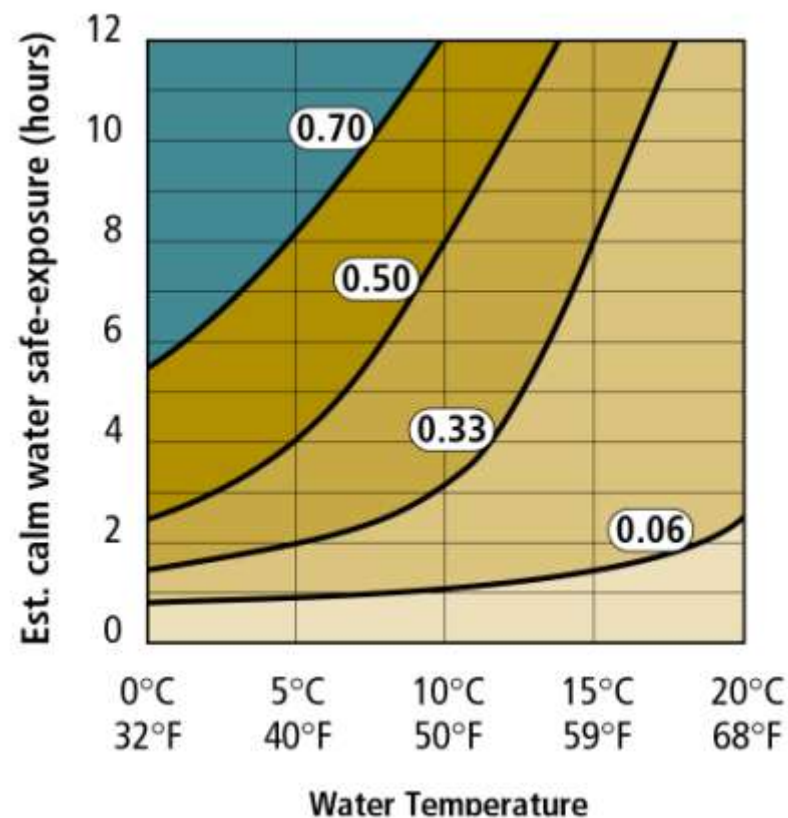


- **Excellent thermal protection**
- **Low Packed Volume**
- **Flame Retardant**
- **Rugged construction for land based survival situations as well as over water**
- **5 Year Maintenance Cycle**

Suit Comparisons



- Thermal performance
- Estimate survival time in various temperatures of cold water
- 0.79 Clo suggests a survival time of greater than 6 hrs in 0°C water
- Chart – Limited to 3°C core temperature drop in calm water (5th percentile male)



Suit Comparisons



Attribute

CWU-16/P

CWU-60/P

MSD730

**Packed
Dimensions (in)**

**Circ = 23
Length = 15**

**Circ = 30
Length = 20**

**Circ = 23
Length = 15**

Inspection Cycle

180 days

180 days

5 yrs

Flame Retardant

No

No

Yes

**Thermal
Insulation - CLO**

<0.2

0.95

0.79

Weight (lbs)

5.4

13.8

6.6

**Base Material &
Thickness (mm)**

**Polychloroprene
0.24**

**Neoprene
5.60**

**Nomex & Foam
6.35**

Benefits



- **Aircrew**
 - Increased thermal and fire protection
 - Increased reliability
 - Versatility

- **Maintainers - Reduced Life Cycle Costs**
 - Environmentally sealed
 - Fewer man hours for inspection & repair
 - No lost components
 - Five year inspection

Summary



- **Current solutions do not provide sufficient thermal protection or are exceptionally bulky**

MSD730

- **Offers uncompromised protection**
- **Extraordinarily small weight and packed volume**
- **Protects against egress threats such as flash fire or snagging**
- **Low life cycle cost and reliability**
- **Retains protective benefit subsequent to exposure**

Serious Products for Serious Users



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