POLYMER GROUP LTD
SOLUTIONS FOR EXTREME ENVIRONMENTS

Product Data Sheet

ENDURATHANE 88845
Cold Cure Flexible Foam

PRODUCT DESCRIPTION

ENDURATHANE 88845 CCF foam is a blend of polyether polyols, catalysts, surfactants and fire retardants. When blended with Melamine and reacted with component A an MDI based isocyanate**,** can be used for the production of combustion modified high resilience flexible foam.

ENDURATHANE 88845 CCF foam is a water blown foam formulation, when processed correctly can produce a foam designed to pass BS5852 Part 2.

PHYSICAL PROPERTIES

Components

Appearance:	Brown liquid
Specific Gravity:	1.19
Viscosity:	245 cPs

Component B (polyol)
Appearance: Clear almost colourless liquid
Viscosity: 1000 cPs @ 20°C

PROCESSING INFORMATION

The **ENDURATHANE 88845 CCF foam** system has been designed to produce an "open cell" foam which requires the minimum of crushing on demould. This characteristic may cause problems if the mould is not filled correctly.
For high pressure machines the following conditions are recommended.

MATERIAL TEMPERATURES

ENDURATHANE 88845: 20-35°C
Component A Isocyanate: 20-25°C

Machine Injector Settings : 120-150 bar
Machine Output : To give shot time in the range of 1-10 seconds
Under those conditions a reaction profile at 100 Index would be :

Cream Time:	16 seconds
Gel Time:	115 seconds
Rise Time:	120 seconds
Demould Time:	4-6 minutes,

depending on type of mould and foam index.

Mixing ratio:
The ratio of **ENDURATHANE 88845 CCF foam and** Melamine) to Isocyanate can be changed to produce harder or softer foam. However, ***to pass the BS5852 ignitability test, a mixing ratio of 100 : 50.7 is recommended.***

Recommended mix ratio:

ENDURATHANE 88845	85 PBW
Melamine	15 PBW
Isocyanate	50.7 PBW

Note: The pre-blend of **ENDURATHANE 88845**/Melamine must be stirred thoroughly before and during use. Melamine is a fine solid, therefore will settle with time.

TYPICAL PHYSICAL PROPERTIES

The following are typical physical properties determined at the recommended mix ratio.

Core Density:	56 kg/m3
Tensile Strength:	50 kPa
ASTM 2282 Elongation:	110%
ASTM 2282 Tear Strength:	88 KN/m
ASTM 2282 Compression Set:	7.0%

Change (ASTM 2282: 70° C 50%, 22hr)

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FLAMMABILITY
Testing Authority : Australian Furniture Research and Development Institute.

Test Method: AFRDI 105-91/BS5852: Part 2
Ignition Source: Gas Flame Source No. 2
Results: Pass

Testing Authority: AWTA
Test Method:AS1530.3-1989
Results:
Ignitiability Index: 0 (Range 0-20)
Spread of Flame Index: 0 (Range 0-10)
Heat Evolved Index: 0 (Range 0-10)
Smoke Developed Index:5 (Range 0-10)

Moulds
ENDURATHANE 88845 CCF foam requires relatively high temperature non-metalic moulds. Mould temperatures of about 50°C are recommended, though in moulds with particularly good thermal conductivity, higher temperatures may be required.

Moulds should not allow foam to escape from them and breather vents should be kept to a minimum. **ENDURATHANE 88845 CCF foam**, unlike some cold cure moulding formulations, exhibits excellent flow properties even at the end of rise which, if vent holes are too large, can results in unacceptable depressurisation of moulds and consequent foam collapse.

Release Agents
Wax release agents, preferably with a fast drying solvent base, are recommended for use with **ENDURATHANE 88845 CCF foam**. With new moulds it is recommended that they be sealed with a heavy duty wax. Various surface textures can be achieved by spraying on different mould release agents. Glenmount 9032 & K&H PU 921 have been found acceptable.

HANDLING PRECAUTIONS

All chemical materials should be used by trained personnel.

Component A (isocyanate) contains methylene bisphenyl diisocyanate (MDI). It is an irritant and allergic sensitiser. It is moderately toxic. **Avoid Contact with skin or eyes, avoid breathing vapour** and use only in well ventilated areas.

Component B (polyol) is a blend of polyols, catalysts, surfactants and fire retardants. It is a mild irritant. Use only in well ventilated situations.

Always wear **eye protection** and suitable **protective clothing. Flush splashes to the skin or eyes with copious quantities of water.'**

Storage & Handling Precautions
When opening a container, care must be taken to release any internal pressure slowly.

Storage Stability
If exposed to moisture Component A will crystallise resulting in line blockages.

Store Component B at temperatures between 15° and 26°C in tightly closed containers to prevent moisture and other contamination. This product has a storage stability of approximately 12 months.

It is recommended that once blended with Melamine, the material should be used immediately.

Health & Safety Advice
Refer to Material Safety Data Sheets for individual products.