

ENDURATHANE 100-60

RIGID FOAM MOULDING SYSTEM

DESCRIPTION	RECOMMENDED USES
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ENDURATHANE 100-60 is a lower density rigid polyurethane moulding foam suitable for handpour or machine application.

Frequently referred to as structural polyurethane foam, the prime characteristic is a sandwich structure consisting of a microscopic cellular core and discreet non-cellular surface layers. The core and surface layers consist of one and the same material and are formed in a single operation (ie not laminates). The properties of these foams can be tailored readily to a wide variety of end-uses by variation of the chemistry of the components or of the processing conditions. This is achieved far more easily than is possible for comparable systems such as thermoplastics.

Foaming pressures are very low and moulds are lighter and less expensive than those used for thermoplastic injection moulding.

The combination of smooth, hard skins and good mechanical properties at low gross weights coupled with good processing characteristics and wide design freedom, makes **ENDURATHANE 100-60** ideal for applications such as decorative and ornamental mouldings, furniture, wall-panelling (wood grain reproduction) panel doors, ornamental legs, decorative drawer fronts and cupboard doors, and many other conventionally wooden products.

Pack Sizes:

250Kg Part A & 220Kg Part B
25 Kg Part A & 22 Kg Part B
Supplied in non-returnable 20 litre pails and 200 litre drums.

PHYSICAL PROPERTIES	CURED FOAM
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Component A (isocyanate)
Viscosity (20°C) 200cps
Flashpoint (ASTM D92) 230°C
Specific Gravity 1.25

Component B (polyol)
Viscosity (20°C) 5700cps
Viscosity (25°C) 3500cps
Specific Gravity 1.08

Reaction Profile

Cream Time (20°C) 65 secs
Rise Time 160 secs
Tack Free Time 250 secs

Mix Ratio 100A:100B parts by volume
(115A:100B parts by weight)

Density 100 kg/m³
Thermal Conductivity 0.040
(Kcal/m² hr °C)

Compressive Strength (kN/m²)
Free rise 750
Moulded(overpacked 20%) .. 1000

Closed Cells 90 - 95%

Dimensional Stability
24 hrs @ 100°C 1 to 4%
24 hrs @ -40°C 0%
24 hrs @ 70°C/100% RH..... 0-4%

Water Absorption (%ASTM D2842) ≤0.5

Water Vapour Permeability ≤1.0
(Perm-in ASTM C-355 @ 23°C)

POLYMER GROUP LTD

APPLICATION DATA

ENDURATHANE 100-60 can be hand mixed (see separate application bulletin) or machine-applied through 2-component polyurethane application equipment.

Please consult your representative for advice regarding any equipment application questions you may have.

Operator must have adequate product knowledge to recognise faulty foam so remedial action can be taken.

Mould Materials:

Endurathane 100-60 may be used with most common mould materials. Substrates must be clean and dry.

Ambient and surface temperatures should be above 15°C (moulds are usually run in the 30-40°C range). Low temperatures will decrease rise of foam markedly. Suitable release agents must be used.

Theoretical Yield:

Always check yield and application rates. Adequate allowance must be made for overpacking, especially when cavities are narrow or foam has a long flow path.

1 kg of foam occupies 0.01 cu. m.

HANDLING PRECAUTIONS

All chemical materials should be used by trained personnel.

Component A [isocyanate] contains methylenebisphenyldiisocyanate [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.

Always wear **eye protection** and suitable **protective clothing**.

Flush splashes to the skin or eyes with copious quantities of water.

Clean up:

Owing to the chemical resistance of polyurethane products it is important to clean up any surplus as quickly as possible. Methyl Proxitol is suitable for general cleaning and methylene chloride can be used as a line flush.

Wear suitable protective clothing, goggles and gloves at all times when cleaning.

Greasing components beforehand assists with contamination removal.

Storage:

Store at temperatures between 15° and 26°C in tightly closed containers to prevent moisture and other contamination. If exposed to moisture Component A will crystallise resulting in line blockages.

Shelf Life: Minimum 6 months.

Jul2017 replaces 14.12.09

Rev 3