



**Dow Hyperlast**

engineering polyurethane excellence

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**DURAMOULD™**

Systems For Mould Making,  
Rapid Prototyping,  
Pattern Making, and Tooling



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## Dow Hyperlast

### DURAMOULD™ Systems For Mould Making (eg. liners for precast concrete)

Dow Hyperlast have supplied Polyurethane products into the precast concrete industry for almost 30 years. Building on this vast experience Dow Hyperlast have developed a number of products under the brand name - DURAMOULD™ - to complement the existing ranges.

DURAMOULD™ offers the following features

#### DURAMOULD™ ET - Hand Mixable Grades

- Easy ratio
- Room temperature castable
- Moisture tolerance
- Finger print reproduction
- Minimal shrinkage

#### DURAMOULD™ EMX & SMX - Machine Mixable Grades

- Quick gel and demould
- High production rates
- Excellent abrasion resistance
- Excellent resistance to release oils
- Finger print reproduction

#### DURAMOULD™ EMS - Sprayable Grades

- Fast tack free to cure
- Excellent detailing
- 1:1 Volume ratio
- High build coating
- No solvent

These DURAMOULD™ features have been designed to help you ensure right-first-time manufacture of high quality long lasting moulds that give superb reproduction of fine detail.

### DURAMOULD™ Systems For Mould Making (eg. liners for precast concrete)

#### DURAMOULD™ ET - HAND MIXABLE GRADES

| Grade           | ET 30A  | ET 45A  | ET 60A  | ET 70A  |
|-----------------|---------|---------|---------|---------|
| Colour          | Yellow  | Red     | Orange  | Clear   |
| Polyol          | 7980316 | 7980295 | 7980311 | 7980367 |
| Isocyanate      | 7855234 | 7855223 | 7855223 | 7855223 |
| Mixing Ratio*   | 0.7:1   | 1:1     | 0.5:1   | 0.29:1  |
| Gel Time (Mins) | 15-25   | 15-25   | 10-20   | 10-15   |
| Shore Hardness  | 30A     | 45A     | 60A     | 70A     |

\*mix ratio by weight



DURAMOULD™ ET30A



DURAMOULD™ ET45A



DURAMOULD™ ET60A



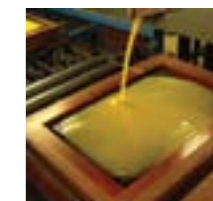
DURAMOULD™ ET70A

With simple ratios and long gel times DURAMOULD™ ET grades allow easy processing by hand mix method to give high quality moulds with finger print detail of the master pattern.

#### DURAMOULD™ EMX & SMX - MACHINE MIXABLE GRADES

|                      | Polyether | Polyester | Polyester | Polyester |
|----------------------|-----------|-----------|-----------|-----------|
| Grade                | EMX 65A   | SMX 30A   | SMX 40A   | SMX 60A   |
| Colour               | Natural   | Natural   | Natural   | Yellow    |
| Polyol               | 7980118   | 7981048   | 7981101   | 7981113   |
| Isocyanate           | 7855149   | 2875034   | 2875034   | 2875034   |
| Mixing Ratio (by Wt) | 0.83:1    | 5.2:1     | 4.5:1     | 1.82:1    |
| Gel Time (Mins)      | 6-8       | 3-3.5     | 4-5       | 3.5-4.5   |
| Shore Hardness       | 65A       | 30A       | 40A       | 60A       |

The DURAMOULD™ EMX & SMX grades have been developed based on materials used in the industry for over 30 years. They allow rapid productivity via multi component dispensing machines and the ability to mass produce quality moulds economically.



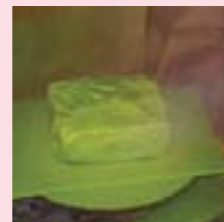


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### DURAMOULD™ Systems For Mould Making (eg. liners for precast concrete)

#### DURAMOULD™ EMS – SPRAYABLE GRADES

| Grade           | EMS 85A   | EMS 95A   | EMS 80D   |
|-----------------|-----------|-----------|-----------|
| Colour          | Natural   | Black     | Natural   |
| Polyol          | 7980417   | 7980418   | 7983196   |
| Isocyanate      | 7855296   | 7855297   | 7855257   |
| Mixing Ratio    | 1:1 (vol) | 1:1 (vol) | 1:1 (vol) |
| Gel Time (Secs) | 5-10      | 5-10      | 5-10      |
| Shore Hardness  | 85A       | 95A       | 80D       |



DURAMOULD™ EMS85A

When selecting to process the DURAMOULD™ EMS grades, you will have the opportunity to produce high quality moulds in minutes. The products are solvent free and therefore coating thickness and drying time is not an issue. Their materials allow for high build coatings to be applied which cure quickly and provide excellent reproduction of the fine detail from the master pattern.

### DURAMOULD™ For Rapid Prototyping, Pattern making and Tooling

- High impact systems
- High temperature resistant systems
- Range of gel times and hardness
- Flame retardant



DURAMOULD™ polyurethanes for the rapid prototyping and tooling industries have been designed to simulate a variety of different plastics and rubbers.

DURAMOULD™ can be moulded and the materials are tailored to suit the customers processing methods and performance requirements. All Dow Hyperlast materials are quality assured to ISO 9001:2000 and are backed by outstanding Technical Service.

### DURAMOULD™ For Rapid Prototyping, Pattern making and Tooling

#### New DURAMOULD™ Clearcast EH84D



#### New DURAMOULD™ Fastcast EM73D



#### FEATURES / BENEFITS

| Clear Cast         |                              | Fast Cast                    |   |
|--------------------|------------------------------|------------------------------|---|
| 1:1 by volume      | No need for scales           | 1:1 by weight                | Simple to use                                       |
| Light stable       | No unsightly discolouration  | Low viscosity                | Easy to cast intricate shapes                       |
| Minimal shrink     | Excellent for large castings | Low shrink                   | Accurate castings                                   |
| Cold castable      | No need for ovens            | Cold castable                | No need for ovens                                   |
| Very low viscosity | Easy to de-gas               | Add fillers*                 | Control costs and shrinkage                         |
|                    |                              | Excellent moisture tolerance | Easy to produce quality castings                    |
|                    |                              | Thin/Thick section casting   | Multipurpose / versatile                            |
|                    |                              |                              | *Choice of fillers available to optimise properties |





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### DURAMOULD™ For Rapid Prototyping, Pattern making and Tooling

| Application       | Properties   | DURAMOULD™ Reference        |
|-------------------|--|-----------------------------|
| New Clearcast     | 84D hardness   | DURAMOULD™ EH 84D (7980399) |
| Multipurpose      | Optically transparent<br>1:1 by vol / 15 min gel time  |                             |
| New Fastcast      | 73D Hardness   | DURAMOULD™ EM73D (7983157)  |
| Multipurpose      | Low viscosity / cold castable<br>Good moisture tolerance<br>Filled or Unfilled<br>Natural colour / Easy to pigment<br>Machinable<br>1:1 weight ratio<br>3 min gel time / 10-15 min demould |                             |
| General Purpose   | 88D Hardness   | DURAMOULD™ EM88D (7983209)  |
| Tooling           | Black / Cold castable<br>High modulus<br>Simple 2:1 Mix Ratio<br>9 min gel time  |                             |
| Fire Retardant    | 85D Hardness   | DURAMOULD™ EMF85D (7983172) |
| Prototyping       | Passes UL94 V-0 @ 3mm<br>White / Low Temp Casting<br>5 min gel time / 2:1 ratio  |                             |
| Rigid Prototyping | 75D hardness<br>Natural colour / Low Temp Casting<br>High HDT<br>Good impact strength<br>9 min gel time / 0.27:1 ratio   | DURAMOULD™ EM75D (7983074)  |
| Rigid Prototyping | 70D Hardness<br>Excellent Impact Strength<br>Natural<br>7 min gel time / 1.3:1 ratio   | DURAMOULD™ EM70D (7853113 ) |

### DURAMOULD™ For Rapid Prototyping, Pattern making and Tooling

| Application      | Properties   | DURAMOULD™ Reference       |
|------------------|--|----------------------------|
| General Purpose  | 87A Hardness   | DURAMOULD™ EM87A (7980297) |
| Rigid tooling    | Black / Cold Castable<br>45 min gel time / 4.4:1 ratio         |                            |
| General Purpose  | 65A Hardness   | DURAMOULD™ EM65A (2851106) |
| Flexible Tooling | Filled<br>White / Cold Castable<br>10 min gel time / 6:1 ratio |                            |

Other systems suitable for the prototype, pattern making & tooling market include:

|             |  |
|-------------|--|
| HYPERLAST™  | 35A - 82D Hardness Range with good mechanical properties                   |
| C200 Series | Unpigmented / hand or machine mixable<br>5-8 min gel times / quick demould |