

Product Selector Guide

HUNTSMAN

Enriching lives through innovation

RenShape® Board Materials

| Product | Applications | Colour | Density (g/cm ³) | Coefficient of Thermal Expansion ISO 11359 (10 ⁻⁶ K ⁻¹) | Heat Distortion (°C) ISO 75 | Flexural Strength ISO 178 (MPa) | Compressive Strength ISO 604 (MPa) | Compressive Modulus ISO 604 (MPa) | Shore-D-Hardness ISO 868 |
|------------------------------------|--------------------------------|-----------|------------------------------|--|-----------------------------|---------------------------------|------------------------------------|-----------------------------------|--------------------------|
| Styling and Modeling Boards | | | | | | | | | |
| BM 5108 | Styling | White | 0.08 | - | - | - | - | - | - |
| BM 5025 | | Apricot | 0.24 | 60 - 70 | 60 | 5.5 | 3.7 | 140 | - |
| BM 5185 | Modeling | Apricot | 0.50 | 50 - 55 | 60 - 70 | 10 - 15 | 10 - 15 | 500 - 600 | - |
| BM 5440 | Master and Data Control Models | Brown | 0.55 | 60 - 65 | 55 - 65 | 10 - 15 | 10 - 15 | 650 - 750 | 55 - 60 |
| BM 70 | | Brown | 0.70 | 65 - 70 | 60 - 70 | 20 - 25 | 15 - 20 | 950 - 1150 | 60 - 65 |
| BM 5460 | | Brown | 0.70 - 0.73 | 55 - 60 | 60 - 70 | 25 - 30 | 20 - 25 | 1250 - 1350 | 60 - 65 |
| Tooling Boards | | | | | | | | | |
| BM 5055 | High Tg Epoxy | Green | 0.72 - 0.75 | 35 - 40 | 135 - 140 | 30 - 40 | 50 - 55 | 2300 - 2400 | 75 |
| BM 5066 | Jigs and Fixtures | Beige | 1.10 | 55 - 60 | 75 - 80 | 55 - 60 | 55 - 60 | 2600 - 2800 | 75 - 80 |
| BM 5172 | Foundry | Green | 1.20 | 60 - 65 | 75 - 85 | 80 - 90 | 75 - 80 | 3200 - 3400 | 80 |
| BM 5112 | Hammer Forming | Grey | 1.50 | 80 - 90 | 85 - 90 | 70 - 80 | 50 - 60 | 2400 - 2800 | 80 - 85 |
| BM 5166 | Jigs and Metalforming | Ivory | 1.70 | 45 - 50 | 75 - 80 | 55 - 65 | 90 - 100 | 7000 - 7500 | 85 - 90 |
| BM 5266 | Metal Sheet Forming | Dark grey | 1.70 | 45 - 50 | 120 - 125 | 80 - 85 | 125 - 130 | 7000 - 7500 | 85 - 90 |

| Product | Adhesives | Reparation system | Product | Adhesives | Reparation system |
|---|--------------------------------|------------------------------------|---------|----------------------------|--|
| RenShape® Board Bonding Adhesives and Repair | | | | | |
| BM 5108 | RenPaste® SV 36 / Ren® HY 5162 | Repair with adhesive bonded insert | BM 5055 | RenGel® SW18 / Ren® HY5159 | Repair with adhesive bonded insert |
| BM 5025 | RenCast® FC 52 | XW 5184, XW 5130 | BM 5066 | Araldite® AW 106 / HV 953U | Repair with adhesive bonded insert |
| BM 5185 | RenCast® FC 52 | XW 5184, XW 5130 | BM 5172 | Araldite® AW 106 / HV 953U | Repair with adhesive bonded insert |
| BM 5440 | RenPaste® SV 427-2 / HY 5162 | XW 5184, XW 5130 | BM 5112 | Araldite® AW 106 / HV 953U | AW 2101, HW 2951 |
| BM 70 | RenPaste® SV 427-2 / HY 5162 | XW 5184, XW 5130 | BM 5166 | Araldite® AW 106 / HV 953U | Araldite® AW 5308, HV 5309-1 RenPIM® 5219 A/B, 5217 B, DT 082 |
| BM 5460 | RenPaste® SV 427-2 / HY 5162 | XW 5184, XW 5130 | BM 5266 | Araldite® AW 106 / HV 953U | Ureol® 5219 AB, 5217B, DT 078 |

Seamless modeling pastes (machine applied)

| Product | Colour | Mix ratio (pbw) | Minimum cure schedule | Density (g/cm ³) | Shore-D-Hardness ISO 868 | Coef. of thermal expansion ISO 11359 (10 ⁻⁶ K ⁻¹)* | Deflection Temp. ISO 75 (°C)* |
|--------------------------------------|-------------|-----------------|------------------------|------------------------------|--------------------------|---|-------------------------------|
| XD 4601-1 / XD 4601 | Light brown | 100 : 100 | Machinable in 1-2 days | 0.52 - 0.57 | 40 | 100 - 105 | 45 - 55 |
| RenPaste® SV 4503-1 / Ren® HV 4503-1 | Brown | 100 : 100 | Machinable in 1-2 days | 0.75 - 0.80 | 55 - 60 | 100 - 105 | 45 - 55 |
| XD 4563-1 / Ren® HV 4503-1 | Grey | 100 : 100 | Machinable in 1-2 days | 0.75 - 0.80 | 55 - 60 | 100 - 105 | 45 - 55 |

* Properties after 3 days at room temperature

Net size casting

| Product | Mix ratio (pbw) | Pot life (3kg) at 25°C (min) | Recommended Cure Schedule (°C) | Density (g/cm ³) | Shore-D-Hardness ISO 868 | Compress. strength ISO 604 (MPa) | Compress. Modulus ISO 604 (MPa) | Deflection Temp. ISO 75 (°C) |
|---|-----------------|------------------------------|--------------------------------|------------------------------|--------------------------|----------------------------------|---------------------------------|------------------------------|
| RenCast® 5146A / RenCast® 5146B | 80 : 100 | 20 - 30 | 7 days @ 20 - 25 or 14 hr @ 40 | 1.20 | 80 | 85 - 90 | 3000 | 75 - 80 |
| RenCast® 5146A / RenCast® 5146B / DT082 | 80 : 100 : 330 | 30 - 40 | 7 days @ 20 - 25 or 14 hr @ 40 | 1.60 | 85 | 90 - 95 | 9500 | 75 - 80 |

| Product | Colour | Density (g/cm ³) | Shore-D-Hardness ISO 868 | Compress. strength ISO 604 (MPa) | Compress. Modulus ISO 604 (MPa) | Deflection Temp. ISO 75 (°C) | Notes |
|---------------|--------|------------------------------|--------------------------|----------------------------------|---------------------------------|------------------------------|--------------------------------------|
| RenTool® 5148 | Blue | 1.80 | 85 - 90 | 90 - 95 | 9500 | 80 | Galvanising process |
| RenTool® 5149 | Ivory | 1.90 | 90 - 95 | 100 - 105 | 10500 | 80 | General metal sheet forming |
| RenTool® 5150 | Brown | 0.75 - 0.80 | 65 - 70 | 35 - 45 | 700 - 800 | 65 - 70 | Style and models |
| RenTool® 5152 | Grey | 1.90 | 90 - 95 | 120 - 130 | 13000 | 115 - 120 | High performance metal sheet forming |

Fastcast polyurethanes

| Product | Colour | Mix ratio (pbw) | Pot life (1kg) (min) | Deflection Temp. ISO 75 (°C) | Notes |
|----------------|----------------|-----------------|----------------------|------------------------------|-------------------------------------|
| RenCast® FC 50 | Off white | 20 : 100 | 4 - 5 | 95 | Filled, machinable, polishable |
| RenCast® FC 51 | Grey | 100 : 100 | 4 - 5 | 80 | 1:1 system for thick casting |
| RenCast® FC 52 | Beige unfilled | 100 : 100 | 6 - 8 | 80 | Low viscosity, pigmentable |
| RenCast® FC 53 | Beige unfilled | 100 : 100 | 3 - 4 | 85 - 90 | Low viscosity, fast demould |
| RenCast® FC 54 | Blue | 100 : 100 | 8 | 85 - 90 | 1:1 slower system for thick casting |
| RenCast® FC 55 | Beige unfilled | 100 : 100 | 4 - 6 | 85 - 90 | Low viscosity, pigmentable |

Recommended cure schedule : 7 days at room temperature

Foundry applications

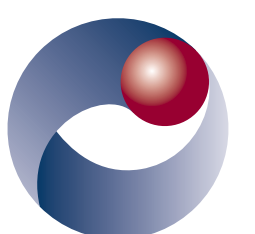
| Product | Mix ratio (pbw) | Pot life (min) | Shore-D-Hardness ISO 868 | Demoulding time at 23°C (hr) | Notes |
|-----------------------------------|-----------------|----------------|--------------------------|------------------------------|---|
| Casting Systems (1kg) | | | | | |
| RenCast® 6414 A / RenCast® 5117-1 | 100 : 40 | 15 - 20 | 65 - 70 | 16 - 24 | Good abrasion resistance |
| RenCast® 6414 A / XD 4609 | 100 : 70 | 15 - 20 | 50 - 55 | 36 | Good abrasion resistance |
| Gelcoats (50g) | | | | | |
| RenCast® 6414 A / XD 4625-1 | 100 : 53 | 15 - 20 | 70 - 75 | 12 | Good brushability and abrasion resistance |
| RenCast® 6414 A / XD 4627 | 100 : 75 | 15 - 20 | 55 - 60 | 12 | Good brushability and abrasion resistance |

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solutions