Hand Operated
Two Roll Mill

With this small lightweight, hand operated two roll mill you are able to carry your tool to most alternative workspaces when needed. The gears are on one side of each roll see to a smooth run, the gap between the rolls can be adjusted between 0.2mm and 5mm. This machine is perfect for mixing small amounts of HCR and rolling into thin layers.

PST-HR

**Technical Details:**
- Standard work height: work bench height + 32 cm
- Roller length: 30 cm
- Roll diameter: 10 cm
- Distance between rolls/min-max: 0.2 - 5.0 mm
- Machine weight: 27kg
- Measurements: L x W x H (min/max): 38 x 25 x 38 cm

**Colour/Appearance:**
- Frame colour: Dark blue metallic, powder coated
- Operating lever: steel
- Other colours are available for this machine on request (additional charge)

Polymer Systems Technology Limited
Tel: +44 (0) 1494 446610 Web: [www.silicone-polymers.co.uk](http://www.silicone-polymers.co.uk)
Electric Bench Top Standard
Two Roll Mill

The Electric Bench Top Two Roll Mill for the mixing of silicones and polymers. All HCR's up to 90° Shore A can be mixed with this machine. Maximum mass is approximately 0.5 kg, for this machine, depending on the hardness of the HCR. This machine is developed to be used on a workbench. In front of the Gap between the two mixing rolls, a wire is situated that will cause the machine to stop when pressed. All functional buttons are hold to run executed.

Technical Details:
- Electrical connection: 230 Volt, 1 phase and ground
- Installed power rating: 0,5 kW
- 0 Volt safety
- Standard workheight: workbench height + 58 cm
- Width of the rolls: 40 cm
- Diameter of the rolls: 10 cm
- GAP minimum/maximum: 0 – 12 mm
- Rotation speed: variable from 1 to 15 RPM
- Machine weight: 150 kg
- Dimensions: D x W x H: 53x78x58 cm

Foot pedal
Stop wire
Unique safety feature
Double chain drive
All functions 'hold to run'
Machine standing on levellers

Standard Equipment:

Electric Bench Top PRO
Two Roll Mill

The completely new two roll mill MW-10 pro will be equipped with some special features. It will have lighting behind the roller opening, touch screen control and a digital thickness gauge.

Pro model with extra features

- Improved visibility roll drop system
- Full touch screen control
- Lighting behind Roller opening

Technical Details:
- Electrical connection: 230 Volt, 1 phase and ground
- Installed power rating: 0,5 kW
- 0 Volt safety
- Standard work height: workbench height + 58 cm
- Width of the rolls: 40 cm
- Diameter of the rolls: 10 cm
- GAP minimum/maximum: 0 – 12 mm
- Rotation speed: variable from 1 to 15 RPM
- Machine weight: 150 kg
- Dimensions: D x W x H: 53x78x58 cm

Foot pedal
Stop wire
Unique safety feature
Double chain drive
All functions 'hold to run'
Machine standing on levellers
Touch screen interface
Multi lingual (Dutch, English, German, French, Spanish)
Digital milling thickness gauge
Lighting behind roller opening

Standard Equipment:
The new full access bench top electric rollers are available with a single motor (PST-EBR-3) and dual motor options (PST-EBR-4). Each of the two machines have an electronic measuring gauge and improved bottom roll drop system making the machine easier to use.

The dual motor version has the ability of changing the roll speed independently for upper and lower roll.

Available in Single or Dual Motor

Technical Details:
- Size of machine:
  - Width = 1050 mm
  - Depth = 500 mm
  - Height = 450 mm
- Machine Weight: 220kg
- Electric Power Supply: 230 Volt, 1 Ph and earth (50/60 Hz).

Both machines have:
- Stainless Steel Rollers
- Electronic measuring gauge.
- Improved bottom roll drop system (making it easier to use)

Standard Equipment:
- Electrical connection: 230 Volt, 1 phase and ground.
- Installed power rating: 1,6 kW
- Standard Workheight: 1 mtr
- Roll width: 75 cm
- Roll diameter: 0.2
- GAP minimum/maximum: 0 – 25 mm
- Rotation speed: variable 5 to 30 rpm
- Machine weight: 280 kg
- Dimension : L x W x H : 0.6 x 1,1 x 1,1 (excluding wheels) mtr

- Stainless Steel Rollers
- Foot pedal
- Stop wire in front of the rolls
- Instruction manual
- EU power supply cord
**Electric Height Adjustable**

*Floor Standing Two Roll Mill*

**HIGH QUALITY CHROME FINISH**

**ERGONOMIC DESIGN**

All ductile polymers that cannot be mixed in a mixer may be mixed in this two roll mill. This big machine is capable of mixing up to 1.25 kg of material depending on the hardness. This machine has been developed to be able to work both standing or sitting. This machine offers the option of mixing large quantities of material in a standing position as well as colouring small amounts of material when sitting. The large space under the bottom roll offers a wide degree of freedom to the operator around the mixing rolls. This machine will be delivered with a desired safety device. All controls are ‘hold to run’.

**PST-HV**

**Technical Details:**

- GAP minimum - maximum: 0 – 25 mm
- Rotation speed: variable 5 to 30 RPM
- Machine weight: 350 kg
- Dimensions: LxWxH (min/max): 0.6x1.2x1.1/1.45 mtr

**Colour/Appearance:**

- The standard frame of this machine is powdercoated in RAL 5026 (dark blue metallic).
- Plating of the machine is powdercoated in RAL 9001.
- The machines can be delivered in any colour of your own preference (additional charge).

**Electrical connection:** 230 Volt, 1 Ph and earth (50/60 Hz).
- Power consumption: 1.8 kW
- Zero volt safety
- Electrical height adjustment system
- Standard work height: variable from min. 1 to max. 1.35 mtr
- Roll length: 60 cm
- Roll diameter: 20 cm
**Horizontal Mobile Floor Standing Electric**  
**Two Roll Mill**

This horizontal model design is for mixing and homogenising and can be supplied with single motor or a dual motor. Typical mixing batches are between 500 gm to 5 kg. Custom versions with water cooling can be provided. This model is the entry level, low cost, powered by single phase or 3 phase. Silicone materials can be left to mix and remove air with the safety lid down. Access can be made to the silicone at a jog speed when the safety lid is open.

- Electrical connection: 400 Volt, 3 phase and ground.
- Installed power rating: 2.2 kW
- 0 Volt safety
- Standard workheight: 1.2 mtr
- Roll width: 75 cm
- Roll diameter: 20 cm
- Thickness minimum/maximum: 0 – 15 mm

**Colour/Appearance:**

The standard frame of this machine is powdercoated in RAL 5026 (dark blue metallic). Plating of the machine is powdercoated in RAL 9001. The machines can be delivered in any color of your own preference (additional charge).
### HIGH CONSISTENCY RUBBERS (HCR)

#### PLATINUM CARE

<table>
<thead>
<tr>
<th>PRODUCT NUMBER</th>
<th>DURAMETER TYPE</th>
<th>TENSILE (psi)</th>
<th>ELONGATION</th>
<th>TEAR (psi/kr/m)</th>
<th>WORK TIME @ 25°C</th>
<th>MIX RATIO</th>
<th>CERTIFIED CURE TIME / °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>MED-2045</td>
<td>40</td>
<td>1525 (10.5)</td>
<td>800</td>
<td>200 (35.3)</td>
<td>&gt;24h</td>
<td>N/A</td>
<td>10m / 171</td>
</tr>
<tr>
<td>MED-4014</td>
<td>15</td>
<td>675 (4.6)</td>
<td>1450</td>
<td>140 (24.7)</td>
<td>&gt;24h</td>
<td>1:1</td>
<td>15m / 166</td>
</tr>
<tr>
<td>MED-4020</td>
<td>25</td>
<td>1400 (9.7)</td>
<td>1200</td>
<td>180 (31.7)</td>
<td>&gt;24h</td>
<td>1:1</td>
<td>15m / 166</td>
</tr>
<tr>
<td>MED-4025</td>
<td>30</td>
<td>1500 (10.3)</td>
<td>900</td>
<td>140 (24.7)</td>
<td>&gt;24h</td>
<td>1:1</td>
<td>15m / 166</td>
</tr>
<tr>
<td>MED-4027</td>
<td>30</td>
<td>2300 (15.9)</td>
<td>1050%</td>
<td>235 (41.2)</td>
<td>&gt;24h</td>
<td>1:1</td>
<td>15m / 166</td>
</tr>
<tr>
<td>MED-4035</td>
<td>35</td>
<td>1500 (10.3)</td>
<td>1000</td>
<td>200 (35.3)</td>
<td>&gt;24h</td>
<td>1:1</td>
<td>15m / 166</td>
</tr>
<tr>
<td>MED-4050</td>
<td>50</td>
<td>1450 (10.0)</td>
<td>1000</td>
<td>250 (44.1)</td>
<td>&gt;24h</td>
<td>1:1</td>
<td>15m / 166</td>
</tr>
<tr>
<td>MED-4065</td>
<td>65</td>
<td>1150 (7.9)</td>
<td>950</td>
<td>250 (44.1)</td>
<td>&gt;24h</td>
<td>1:1</td>
<td>15m / 166</td>
</tr>
<tr>
<td>MED-4080</td>
<td>80</td>
<td>1100 (7.6)</td>
<td>700</td>
<td>215 (37.9)</td>
<td>&gt;24h</td>
<td>1:1</td>
<td>15m / 166</td>
</tr>
</tbody>
</table>

#### ULTRA HIGH PERFORMANCE

| MED-4055       | 55             | 1575 (10.9)   | 900        | 300 (52.5)     | 2h / 177        | 1:1       | 15m / 138                |
| MED-4070       | 70             | 1325 (9.1)    | 700        | 285 (50.3)     | 2h / 177        | 1:1       | 15m / 138                |

#### PEROXIDE CURE

| MED4-4115      | 50             | 1500 (10.3)   | 450        | 100 (17.6)     | N/A             | 1 PART    | 5m / 116                  |
| MED4-4116      | 70             | 1350 (9.3)    | 400        | 125 (22.0)     | N/A             | 1 PART    | 5m / 116                  |
| MED-4120       | 25             | 1300 (9.0)    | 925        | 130 (22.9)     | N/A             | 1 PART    | 5m / 116                  |
| MED-4128       | 25             | 1035 (7.1)    | 800        | 70 (12.3)      | N/A             | 1 PART    | 5m / 116                  |
| MED-4135       | 35             | 1250 (8.6)    | 800        | 110 (19.4)     | N/A             | 1 PART    | 5m / 116                  |
| MED-4150       | 50             | 1450 (10.0)   | 700        | 180 (31.7)     | N/A             | 1 PART    | 5m / 116                  |
| MED-4165       | 65             | 1200 (8.3)    | 500        | 200 (35.3)     | N/A             | 1 PART    | 5m / 116                  |
| MED-4174       | 65             | 1200 (8.3)    | 775        | 225 (39.7)     | N/A             | 1 PART    | 5m / 116                  |

#### USP CLASS VI HCRs

- For a wide variety of fabrication techniques in the healthcare industry including: moulding, calendaring and extruding.
- Two-part, high consistency elastomers design for optimal performance in a wide range of applications.
- Produces a tough, durable, translucent elastomer when thermally cured.
- Has a non-tacky surface and no volatile by-products or peroxide residues.
- Advantages include lot-to-lot consistency and cost effectiveness.
- Can be used with NuSil's Healthcare color masterbatches for applications requiring colored silicones.

<table>
<thead>
<tr>
<th>PRODUCT NUMBER</th>
<th>DURAMETER TYPE</th>
<th>TENSILE (psi)</th>
<th>ELONGATION</th>
<th>TEAR (psi/kr/m)</th>
<th>WORK TIME @ 25°C</th>
<th>MIX RATIO</th>
<th>CERTIFIED CURE TIME / °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIL2-5020</td>
<td>21</td>
<td>1620 (11.2)</td>
<td>1185</td>
<td>195 (34.3)</td>
<td>8h</td>
<td>1:1</td>
<td>15m / 165</td>
</tr>
<tr>
<td>SIL2-5030</td>
<td>31</td>
<td>1690 (11.7)</td>
<td>1140</td>
<td>215 (37.8)</td>
<td>5h</td>
<td>1:1</td>
<td>15m / 165</td>
</tr>
<tr>
<td>SIL2-5040</td>
<td>39</td>
<td>1510 (10.4)</td>
<td>1115</td>
<td>220 (38.7)</td>
<td>4h</td>
<td>1:1</td>
<td>15m / 165</td>
</tr>
<tr>
<td>SIL2-5050</td>
<td>50</td>
<td>1350 (9.3)</td>
<td>940</td>
<td>245 (43.1)</td>
<td>4h</td>
<td>1:1</td>
<td>15m / 165</td>
</tr>
<tr>
<td>SIL2-5060</td>
<td>60</td>
<td>1295 (8.9)</td>
<td>920</td>
<td>255 (44.9)</td>
<td>1h</td>
<td>1:1</td>
<td>15m / 165</td>
</tr>
<tr>
<td>SIL2-5070</td>
<td>68</td>
<td>1330 (9.2)</td>
<td>855</td>
<td>260 (45.8)</td>
<td>2h</td>
<td>1:1</td>
<td>15m / 165</td>
</tr>
<tr>
<td>SIL2-5080</td>
<td>80</td>
<td>1140 (7.9)</td>
<td>615</td>
<td>210 (37.0)</td>
<td>&gt;24h</td>
<td>1:1</td>
<td>15m / 165</td>
</tr>
</tbody>
</table>
VERSASIL®
HIGH CONSISTENCY SILICONE ELASTOMERS

DESCRIPTION
- A unique three-part system, VersaSil® offers the flexibility of adjustable cure rate and table life for various fabrication requirements
- High tear strength, wide processing parameters, and translucent, non-tacky surfaces
- Developed to be compounded with the inhibitor CAT-40 and the platinum catalyst CAT-55. Advantages include: no volatile byproducts, lower cure temperature, and optional post-cure
- 100:1.0:1.0 Mix Ratio

NuSil Technology’s VersaSil® Series shall not be considered for use in human implantation for a period of greater than 29 days.

PLATINUM CURE
VersaSil®3, 40, 50, 60, 70, and 80 are a family of versatile high-consistency elastomers developed for volume-users who demand maximum flexibility. VersaSil® can be used for silicone extrusion, molding, and calendaring. This unique 3-part system allows flexibility to adjust the cure rate and the table life to various fabrication requirements. The VersaSil® series produces tough, durable elastomers with nominal Type A durometers of 30, 40, 50, 60, 70, and 80. Additionally, the base stocks may be blended to produce elastomers of intermediate durometer and other physical properties. This brochure can be used as a guide for anticipated physical and chemical properties from the vulcanized VersaSil® elastomer system.

MILLING INSTRUCTIONS
Always mill the components before mixing together. If it is a 1:1 mix ratio silicone product, always mill part A and then mill part B separately. If heat is generated, allow to cool to ambient conditions, before combining the 2 components.

VersaSil® is a versatile, high-consistency silicone elastomer that can be blended to produce intermediate durometer and other physical properties. Always mill the components before mixing together. If it is a 1:1 mix ratio silicone product, always mill part A and then mill part B separately. If heat is generated, allow to cool to ambient conditions, before combining the 2 components.

RHEOMETRY:
Rheometry is an extremely useful tool for determining the flow properties and cure profiles of silicones. Rheometry is a comparison of the relationship between stress, strain, temperature, and time. By minimizing the amount of CAT-40 masterbatch, a faster cure rate and quicker scorch time can be achieved.

The following table displays typical properties of the uncured VersaSil® base stocks and typical properties after vulcanization using CAT-40 and CAT-55 platinum catalyst masterbatches.

<table>
<thead>
<tr>
<th>NUSSL PRODUCT NUMBER</th>
<th>UNCURED PHYSICAL PROPERTIES</th>
<th>CURED PHYSICAL PROPERTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PLASTICITY</td>
<td>APPEARANCE</td>
</tr>
<tr>
<td>Platinum Cure—Press Cured with 100:1.0:1.0 (Base Stock : CAT-40 : CAT-55)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MED-4032</td>
<td>60</td>
<td>Translucent</td>
</tr>
<tr>
<td>MED-4042</td>
<td>63</td>
<td>Translucent</td>
</tr>
<tr>
<td>MED-4052</td>
<td>60</td>
<td>Translucent</td>
</tr>
<tr>
<td>MED-4062</td>
<td>85</td>
<td>Translucent</td>
</tr>
<tr>
<td>MED-4072</td>
<td>85</td>
<td>Translucent</td>
</tr>
<tr>
<td>MED-4082</td>
<td>115</td>
<td>Translucent</td>
</tr>
</tbody>
</table>

BIological DATA:
Each lot of material is tested for cytotoxicity and emission spectroscopy, as per ISO-10993 and ASTM E 305 respectively. Master Files for the VersaSil® series have been filed with the U.S. Food and Drug Administration. Customers interested in authorization to reference the Master Files must contact NuSil Technology LLC. After being cured with CAT-40 and CAT-55, these elastomers are compliant with USP Class VI (Systemic Toxicity, Intracutaneous Toxicity, and 7-Day Muscle Implantation Study) requirements and applicable ISO 10993 requirements. The following table summarizes the biological testing conducted on the formulation components of the VersaSil® series of elastomers.

<table>
<thead>
<tr>
<th>Standard FDA Class</th>
<th>Test</th>
<th>Tested Per USP</th>
<th>Tested Per ISO 10993</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytotoxicity</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>A-Noncytotoxic B-Noncytotoxic C-Cytotoxic</td>
</tr>
<tr>
<td>Hemolysis</td>
<td>No</td>
<td>Nonhemolytic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systemic Extracts</td>
<td>Yes</td>
<td>Yes</td>
<td>Nonotoxic</td>
<td></td>
</tr>
<tr>
<td>Intracutaneous</td>
<td>Yes</td>
<td>Yes</td>
<td>Non Toxic</td>
<td></td>
</tr>
<tr>
<td>Exacts</td>
<td>Exceed</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Implantation One</td>
<td>Yes</td>
<td>No</td>
<td>Non-mutagenic</td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salmonella Mutagen</td>
<td>Yes</td>
<td>Yes</td>
<td>Non-mutagenic</td>
<td></td>
</tr>
<tr>
<td>Rabbit Pyrogen</td>
<td>Yes</td>
<td>Yes</td>
<td>Nonpyrogenic</td>
<td></td>
</tr>
<tr>
<td>Sensitization</td>
<td>Yes</td>
<td>No</td>
<td>No Sensitization</td>
<td></td>
</tr>
</tbody>
</table>

CURED PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>PLATED TIME (100:1:0)</th>
<th>STRESS AT STRAIN 200% (psi)</th>
<th>TENSILE SET %</th>
<th>ELDGATION %</th>
<th>TEAR STRENGTH (psi/Km/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platinum Cure—Press Cured with 100:1.0:1.0 (Base Stock : CAT-40 : CAT-55)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>150</td>
<td>230</td>
<td>2.6</td>
<td>9</td>
</tr>
<tr>
<td>145</td>
<td>226</td>
<td>270</td>
<td>1.3</td>
<td>9</td>
</tr>
<tr>
<td>190</td>
<td>275</td>
<td>360</td>
<td>2.6</td>
<td>14</td>
</tr>
<tr>
<td>282</td>
<td>375</td>
<td>360</td>
<td>2.6</td>
<td>16</td>
</tr>
<tr>
<td>370</td>
<td>475</td>
<td>420</td>
<td>2.5</td>
<td>31</td>
</tr>
<tr>
<td>380</td>
<td>450</td>
<td>460</td>
<td>1.5</td>
<td>13</td>
</tr>
</tbody>
</table>

NUSSL TECHNOLOGY’S VERSASIL® SERIES SHALL NOT BE CONSIDERED FOR USE IN HUMAN IMPLANTATION FOR A PERIOD OF GREATER THAN 29 DAYS.
It is the sole responsibility of each purchaser to ensure that any use of these materials is safe and complies with all the applicable regulations. It is the user’s responsibility to adequately test and determine the safety and suitability for their applications and NuSil Technology makes no warranty concerning fitness for any use or purpose.