



industrial and decorative **flooring**  
**coatings** for concrete and steel  
**Wearing courses** for bridge decks and other constructions

**HIM Products B.V.** [www.him.nl](http://www.him.nl)  
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# Himgrip NT

Solventfree, lightweight, pourable wearing course based on epoxy/polyurethane resins

<b>Uses</b>
Himgrip NT produces an abrasion resistant, non-slip wearing course. The system may be applied to concrete, steel, composite or wooden substrates. Himgrip NT resin is dressed with selected hard wearing aggregates. Applications include bridge-decks, RO/RO link-spans, parking areas, garages, ramps, walkways and cycle paths.
<b>Product description</b>
Himgrip NT is a solvent-free blend of epoxy and polyurethane resins, reinforced with chemically inert, graded fillers.
<b>Advantages</b>
<ul style="list-style-type: none"> <li>▼ Lightweight – important in design considerations</li> <li>▼ Hardwearing</li> <li>▼ Flexible – excellent flexural and tensile strength</li> <li>▼ Non-slip, even when wet</li> <li>▼ chemical resistant</li> <li>▼ waterproof – provides a lightweight, chemical and corrosion resistant, water impermeable wearing course</li> </ul>
<b>Colors</b>
The final colour of the Himgrip NT system will depend on the aggregate used as the surface dressing, normally Dynagrip. The colour of Dynagrip is dark grey/anthracite.
<b>System</b>
<p><i>On concrete :</i>          1 coat of HIM Primer 31, followed by 1 coat of Himgrip NT, wet-in-wet, dressed with excess aggregate in the desired grain size. If it is not possible to apply wet-in-wet, the primer must be lightly sanded with fire dried sand.</p> <p><i>On steel :</i>          1 coat of HIM Primer NT, followed by 1 coat of Himgrip NT, dressed with excess aggregate in the desired grain size.</p> <p><i>On wood :</i>          Himgrip NT may be applied directly on the wood and dressed with excess aggregate in the desired grain size. For damp wood HIM advises to apply 1 coat of HIM Primer 36 first, lightly sanded for better adhesion.</p> <p><i>On composites :</i>          In general Himgrip NT may be applied without a primer on the grinded and de-greased surface. However we recommend an adhesion test in all cases. The wet layer of Himgrip NT is dressed with excess aggregate in the desired grain size.</p>

Technical data *)	Himgrip NT
<b>Mixing ratio base : hardener : filler (w/w)</b>	20,6 : 7,9 : 71,5
<b>Specific gravity (mixed)</b>	App. 1,8
<b>Volume of solids (mixed)</b>	100%
<b>Tensile strength (BS 6319 - 28 days)</b>	20 N/mm <sup>2</sup>
<b>Flexural strength (BS 6319 - 28 days)</b>	39 N/mm <sup>2</sup>
<b>Compressive strength (BS 6319 - 28 days)</b>	55 N/mm <sup>2</sup>
<b>Shore-D hardness</b>	75
<b>Service temperature</b>	80°C maximum
<b>Material consumption (theor.)</b>	1,8 kg/m <sup>2</sup> per mm thickness
<b>Potlife at 20°C</b>	App. 30 minutes
<b>Curing time at 20°C</b>	Light foot traffic after 12 hours, full traffic load after minimum 16 hours and fully cured after 7 days.
<b>Chemical resistance</b>	The cured layer of Himgrip NT is resistant to petrol, diesel fuel, lubricating oil, hydraulic fluid, a number of aliphatic hydro-carbons, de-icing salts, cleaning fluids, jet fuel (kerosene), diluted mineral acids and alkaline solutions. For further information on chemical resistance please contact HIM

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<b>Temperature limitations</b>
Himgrip NT shall not be applied at temperatures below 5°C, nor onto a substrate with a temperature lower than 3°C above the dewpoint. The maximum application temperature is 35°C.
<b>Surface preparation</b>
It is essential to thoroughly prepare the surface in order to achieve a sound, clean and dry substrate. <i>Concrete</i> : The concrete shall be clean, dry and free of laitance. Mechanical cleaning or abrasive blasting is recommended. The prepared concrete will be primed before the Himgrip NT is applied wet-in-wet. <i>Steel</i> : The primer shall be applied on freshly blast steel (SA 2½) with an angular amplitude between 75 and 125 microns. <i>Wood</i> : The surface shall be clean, dry and uncontaminated. Hardwoods may require abrasion in order to obtain a good mechanical key. <i>Composites</i> : Light grinding and de-greasing. For recycled composites light flame-blasting is advised, followed by an adhesion test.
<b>Limitations</b>
New concrete floors should be at least 28 days old and contain no more water than 5% by weight. Care should be taken that no rising damp can take place through the substrate, resulting in blisters and/or adhesion failure of the system. The rubber mat test can help to predict rising damp. Existing expansion joints must be repeated in the new Floor. The concrete substrate should have a compressive strength of minimal 25 MPa and must be pre-treated properly to achieve the required adhesion. At a water content of the concrete between 5% and 8% HIM Primer 36 should be used.
<b>Primer</b>
<i>Concrete</i> : Apply HIM Primer 31 on the prepared substrate. Add the B-component to the A-component and mix till a homogeneous mixture is obtained. The primer should be applied immediately with a roller or brush in a thin continuous film. Care should be taken to avoid over-application or puddles. If the existing surface is very porous a second coat might be necessary. If the wearing course is not applied in the wet primer, the primer shall be lightly sanded with fire dried sand. <i>Steel</i> : Apply HIM Primer NT on the prepared substrate. Add the B-component to the A-component and mix till a homogeneous mixture is obtained. The primer should be applied immediately with a roller or brush in a thin continuous film. <i>Wood</i> : Apply HIM Primer 36 (only on damp wood). Add the B-component to the A-component and mix till a homogeneous mixture is obtained. The primer should be applied immediately with a roller or brush in a thin continuous film and lightly sanded with fire dried sand to achieve the required adhesion. <i>Composites</i> : No primer is required.
<b>Mixing</b>
Proper mixing of the Himgrip NT components is essential. Add the hardener to the base component and mix well. Add the filler slowly and continuously whilst still mixing for 3-5 minutes until a homogenous mix is obtained. <b>Do not add solvent!!</b> It is important that all components are intermixed thoroughly with a forced-action mixer or an approved spiral paddle in a slow speed heavy-duty drill so that no traces of the components remain unmixed.
<b>Application</b>
Immediately after mixing the Himgrip NT shall be poured on the prepared surface and spread evenly with a steel trowel or squeegee. Care must be taken to ensure that where the material is applied against existing Himgrip NT, there is total contact at the correct thickness. It is essential that a wet film thickness gauge is used, to ensure an even thickness is achieved.
<b>Pot life at 20°C</b>
Approximately 30 minutes.
<b>Material consumption (theoretical)</b>
The recommended coat thickness before scattering for medium to heavy traffic is 3,0-4,5 mm. For light traffic the minimum coat thickness is 2,0 mm. The material consumption is 1,8 kg/m <sup>2</sup> per mm thickness.
<b>Aggregate</b>
HIM recommends to use Mandurax. For heavy traffic the grain size is 3-5 mm, for medium to heavy traffic the grain size is 1-3 mm and for light traffic 0,25-1 mm. Also excellent test results have been achieved with Guyana Bauxite.  The aggregate dressing must be applied immediately after the application of the slurry. The slurry has to be dressed until obliterated and no slurry is visible. The dressing is applied by methods that will ensure that it falls vertically down onto the slurry. If hand-thrown, there will be ridges created, that cannot be remedied later. The excess aggregate has to be removed after curing. If dry, clean and uncontaminated, this excess aggregate may be re-used in further application of the systems.
<b>Joints</b>
Expansion joints need to be continued in the Himgrip NT.
<b>Safety precautions</b>
The components of Himgrip NT are classified as dangerous goods. Consult the Material Safety Datasheet for additional information and the correct preventive measurements.



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<b>Tool cleaning</b>
Himgrip NT should be removed from tools and equipment with <b>HIM Solvent 102</b> immediately after use. Hardened material can only be removed mechanically.
<b>Shelf life</b>
Himgrip NT has a shelf life of 12 months if kept in a dry, cool store in the original, unopened packs.
<b>Disposal</b>
Disposal of spillage or empty packaging should be in accordance with local waste disposal regulations. For further information refer to the Material Safety Data Sheet.
<b>Pack size</b>
Himgrip NT is supplied in sets of 25 kg, 50 kg and 100 kg. For large areas base and hardener may be supplied in steel barrels. Aggregates are supplied in 25 kg bags. Upon request big bags are possible.
<b>Flash points</b>
Himgrip NT base > 100°C Himgrip NT hardener > 100°C For primer and solvent consult the relevant Technical Data Sheet.