

**TUNGSEAL** is a transparent, single pack, organic oil based (modified with polyurethane providing significantly improved wear resistance) timber finish that will preserve and enhance interior timber, parquetry and particle board flooring.

**Uses: TUNGSEAL** is ideal for coating New Timber Floors suspected of being prone to shrinkage. **TUNGSEAL** will greatly reduce the occurrence of edge bonding.

**TUNGSEAL** is ideal for clients concerned about exposure to fumes from Polyurethane as it is less likely to cause discomfort because only white spirit is used as the solvent.

**TUNGSEAL** is not as subject to sheen variation as Low sheen Polyurethanes.

**TUNGSEAL** is completely compatible with Urethane Coatings MODIFIED OIL GLOSS, MODIFIED OIL SATIN and MODIFIED OIL MATT.

## Physical Description & Product Specification

		<b>TUNGSEAL</b>
<b>Appearance</b>		Slightly opaque liquid, mild solvent odour.
<b>Colour</b>		Wet - Dark purple/amber Dry - Mild amber
<b>Drying Time (hours) @ 25°C &amp; 50% R.H.</b>		Reduced temperature and/or increased humidity will slow drying (extend each drying phase).
	<b>Dust Free</b>	1.00
	<b>Tack Free</b>	2.00
	<b>Print Free</b>	4.00
	<b>Hard Dry</b>	6.00
<b>Reflectance</b>	(%)	70 – 80
<b>Viscosity @ 25°C (seconds)</b>		22 – 25
<b>Solid Content</b>	(%)	37 (±1)
<b>Wet film per coat</b>	(mm)	0.100
<b>Dry film per coat</b>	(mm)	0.037
<b>Solubility</b>		Not Soluble in Water.
<b>Specific gravity (H<sub>2</sub>O = 1):</b>		0.872
<b>Sanding &amp; Recoat @ 25°C &amp; 50% R.H.</b>	(Hours)	5.5 – 6.0
<b>Sanding properties</b>		Excellent
<b>Thinning</b>	<b>(NOT Recommended)</b>	However, Urethane Coatings MINERAL TURPENTINE may be added if TUNGSEAL has thickened, or if a higher coverage and a thinner coat is required.
<b>Coverage</b>	(m <sup>2</sup> /Litre)	10
<b>Full cure</b>	(Days)	7
<b>Shelf life</b>	(Months)	12

### Product Slip Resistance – AS/NZS 4586:2004

TUNGSEAL has been evaluated by ATTAR (Advanced Technology Testing and Research) against Test Standard; AS/NZS 4586; 2004 Slip Resistance Classification of New Pedestrian Surface Materials; [Dry Test Standard – Appendix B]

DRY SLIP RESISTANCE – refer Appendix 1 – TABLE 3, CLASSIFICATION OF PEDESTRIAN SURFACE MATERIALS ACCORDING TO THE DRY FLOOR FRICTION TEST.

Classification is F [ > 0.4 ].

(Actual test result: Dynamic Coefficient of Friction - Mean of 0.75).

## Application Data:

### Floor Preparation:

#### General:

1. Check that timber is adequately seasoned as if not, any subsequent cracking warping and shrinkage may compromise adhesion.
2. Ensure the surface is dry and thoroughly clean, removing all dirt, mildew, wax, grease, resin oils, tannins and dust. If Timber is extremely oily or tannin rich, dampen a mop or clean rag with Urethane Coatings THINNERS or Mineral Turpentine and complete a 'Chemical wash' wiping parallel to the grain in a similar manner to applying a coating. If a large area is to be cleaned, thoroughly rinse the mop or rag every 3 - 5m<sup>2</sup>, re-dampen and continue.
3. Nail holes and surface defects should be filled with water based putty. [Refer Important Notice # 5 (Pg. 3)]

**New Floors:** Follow steps 1 to 3 above, sand the floor and fine sand, finishing with 120 grit screen back or pad and vacuum thoroughly.

**Old Floors:** Follow steps 2 to 3 above and clean with hot water and detergent. Roughen surface completely with 100 grit sandpaper and fine sand, finishing with 120 grit screen back or pad and vacuum thoroughly. Wipe floor with Urethane Coatings THINNERS. Test for compatibility by applying **TUNGSEAL** on a small section of floor first. If 'craters' or 'fisheyes' appear add 10mls of Urethane Coatings FLOWMAX Anti-Rejection Fluid per Litre of **TUNGSEAL** and stir thoroughly. Soon after application, inspect for rejections, and if necessary, continue adding FLOWMAX in increments of 10mls per Litre until the surface is free from rejections or up to a maximum of 30mls per Litre of **TUNGSEAL**. The addition of FLOWMAX may stimulate bubbling or foaming if **TUNGSEAL** is excessively agitated and therefore roller rotation speed and vigorous mixing should be minimized during application.

### Application Orientation:

For interior flooring, including all species of timber, parquetry and particle board.

### Application Conditions:

**DO NOT** use **TUNGSEAL** at temperatures below 10°C or above 30°C. On cold days for at least one hour prior to application warm **TUNGSEAL**, by wrapping container in an electric blanket (temp setting 1) for up to 2 hours.

**DO NOT** use **TUNGSEAL** if relative humidity is in excess of 85% AND/OR if the moisture content of timber is in excess of the Australian Standard (9-14%).

### Shake Well & Stir:

Thoroughly before and during use as **TUNGSEAL** contains a silica based matting paste which may settle during the shelf life of this product. [Unstirred **TUNGSEAL** will dry glossier than stirred **TUNGSEAL**].

### Application Method:

Apply with short nap (4 to 6mm) mohair roller, brush or lambs wool applicator.

**DO NOT** return unused material to the can/drum. Touch dry; 1 hour at 25°C and 50% relative humidity, however, allow 5.5-6.0 hours to fully dry. Reduced temperature and/or increased humidity will slow drying (extend time required to dry). When applying **TUNGSEAL** and/or MODIFIED OIL allow 8 to 12 hours between 1st and 2nd & 2nd and 3rd coats. Suitable for light foot traffic 24 hours after final coat.

**N.B.** If the coating does not sand to a fine white powder, leave for a further 24 hours between coats and in extreme cases longer – if possible & practicable operate artificial heating ([Radiator style] Column oil filed electric heaters are preferable - **DO NOT** operate heating equipment that utilise naked flames or red hot surfaces). Some timber species exude oils and antioxidants which severely retard curing. The curing process is called 'autoxidation' and relies on absorbing oxygen from the atmosphere; both antioxidants and the natural oils in timber inhibit curing.

**New Floors:** Apply three coats as per all options below.

**Old Floors:** Apply two coats:

1st as per SECOND COAT options (a), (b) or (c) below, then 2nd as per THIRD COAT and/or Final Coat below.

**FIRST COAT** - can be either (a) or (b) or (c) or (d);

(a) **TIMBERSEAL** – apply with a mohair roller. Allow 40-60 minutes drying, no sanding is required prior to application of second coat.

(b) DUOTHANE FAST A/DUOTHANE Part B - apply with a mohair roller or lamb's wool applicator. Allow 90-120 minutes to dry. Lightly sand with 150 mesh screen-back. Vacuum thoroughly.

(c) TUNGSEAL – apply with a mohair roller or lamb's wool applicator. Allow overnight to dry. Lightly sand with 150 mesh screen-back and vacuum thoroughly before the next coat.

(d) MODIFIED OIL SATIN/GLOSS - apply as per (c) **TUNGSEAL** above.

**N.B.** MODIFIED OIL & TUNGSEAL CATALYST may be added to the first and second coats of TUNGSEAL or MODIFIED OIL GLOSS/SATIN to accelerate curing.

**SECOND COAT** – Apply either (a), (b), or (c);

(a) DUOTHANE FAST A/DUOTHANE Part B - apply with a mohair roller or lamb's wool applicator. Allow 90-120 minutes to dry. Lightly sand with 150 mesh screen-back. Vacuum thoroughly.

(b) **TUNGSEAL** – apply with a mohair roller or lamb's wool applicator. Allow overnight to dry. Lightly sand with 150 mesh screen-back and vacuum thoroughly before the next coat.

(c) MODIFIED OIL SATIN/GLOSS - apply as per **TUNGSEAL** (b).

**THIRD COAT and/or FINAL COAT** – Apply a very even coat of **TUNGSEAL** with a mohair roller or lamb's wool applicator. Application of a consistent film thickness is critical to prevent stop and/or lap marks appearing as **TUNGSEAL** dries.

#### **Important Notice:**

Although **TUNGSEAL** is not as subject to sheen variation as low sheen polyurethanes, the gloss level may increase in conditions of faster drying. Hence open areas such as entrances, may tend to be glossier than areas with little or no airflow.

Accordingly, Urethane Coatings recommend;

1. Restrict air flow by sealing under and around doorways, windows, skirting boards, air conditioning ducts/central heating vents, chimneys, cooling fans of refrigerator motors, etc. In extreme cases (to restrict air flow and/or to control airborne dust) it may be necessary to seal over ceiling penetrations such as down lights, lighting roses and air circulation vents.

2. Always maintain a wet edge, otherwise a lap mark may appear after curing. As appropriate add 40-60mls of Mineral Turpentine per Litre of **TUNGSEAL**.

3. Upstairs floors will tend to be glossier than downstairs as solvent vapours are heavier than air and will flow to lower levels and thus retard the drying process.

4. Some timber species, notably Brushbox, Blackbutt, and Cypress Pine secrete oils and waxes which may migrate to the surface of the coatings causing surface imperfections. The addition of FLOWMAX Anti-Rejection Fluid may assist to alleviate this problem.

5. **DO NOT** apply reduced sheen products (**TUNGSEAL**, MODIFIED OIL SATIN, and MODIFIED OIL MATT) directly over putty as the silica in the putty may react with the matting agent in **TUNGSEAL**/MODIFIED OIL turning the putty white – ensure that at least one coat of MODIFIED OIL GLOSS separates putty from reduced sheen coats. (With the exception of putty, it is compatible to apply **TUNGSEAL**/MODIFIED OIL reduced sheen product directly over another **TUNGSEAL**/MODIFIED OIL reduced sheen product [e.g. Apply a coat of **TUNGSEAL** directly on-top of **TUNGSEAL**]).

#### **Maintenance:**

**TUNGSEAL** requires 7-10 days to fully cure. Avoid heavy foot traffic during this period. After the curing period, regularly sweep with a soft bristle broom or an antistatic mop and as appropriate wash with a mixture of '3 litres of hot water to one cup of Methylated Spirit'. **TUNGSEAL** has wearing properties at least equivalent to all other oil based floor coatings. To look after the floor use mats - place a door mat outside each entrance and if possible, a softer mat immediately inside each door – this will assist to remove any sand, grit and small stones from shoe-soles/feet, that when walked over the floor are abrasive, acting like sandpaper. We caution against the use of vacuum cleaners, particularly if the bristles are worn as the cleaning head may then scratch the floor. The frequency of cleaning is dependent on the level of traffic, amount of grit carried onto the floor, and activity of children, and pets etc. In high traffic situations a sacrificial wear surface, i.e. a polish is required to take the brunt of the traffic.

Suitable polishes are; Urethane Coatings PURASHINE, Johnsons One Go, Reckitts Long Life, or Peerless Gemini. These polishes are water based and easily applied with a foam applicator. Allow at least 10 days for the TUNGSEAL to cure before application of Polish. USE protective pads under legs of furniture and always avoid dragging furniture over the floor.

**Coverage:**  
10m<sup>2</sup> per Litre.

**Thinning:**  
Thinning is NOT recommended; however, Urethane Coatings MINERAL TURPENTINE may be added if TUNGSEAL has thickened, or if a higher coverage and a thinner coat is required.

**Clean Up:**  
Thoroughly wash all equipment with Urethane Coatings CLEANING SOLVENT or MINERAL TURPENTINE. Dry roller, brush, and applicator before reusing.

**Packaging:**  
TUNGSEAL is supplied in 4, 10 and 20 Litre Drums.

**Shelf Life**  
TUNGSEAL is best if used within 12 months from manufacture, when stored in unopened containers under normal conditions of temperature and humidity. N.B. After the drum seal is 'broken' TUNGSEAL is prone to 'skinning', therefore when decanting a partly used drum strain the TUNGSEAL through a stocking or stainless steel sieve.

**Health & Safety Directions:**  
For detailed Health and Safety information refer to the TUNGSEAL SDS as it is an integral part of using this product.

Usage of this material must be under well ventilated conditions to minimise inhalation of vapours. Wear respirator with filters that conform to AS 1716. Asthmatics, the very young, elderly people and pets should leave the site during the first 24 hours. Prevent skin contact by wearing impervious gloves, overalls, safety boots and safety glasses. Breathing of vapour is harmful and may cause lung irritation and allergic respiratory reaction. Irritates skin and eyes. Keep can/drum firmly closed as this product cures when exposed to air. In case of spillage, cover with earth, sand or absorbent material. Remove from

work area and cover with water for 24 hours prior to disposal.

**Flammable:**  
TUNGSEAL contains 75gms per Litre of Aromatic Hydrocarbon. The can/drum contains volatile and flammable solvents and when applying the contents adequate ventilation to the outside must be provided. All potential sources of ignition (open flames, pilot lights, furnaces, spark producing electrical switches, etc.) must be eliminated in or near the working area. **DO NOT SMOKE.** Keep Drum closed when not in use.

**FIRST AID:**  
If affected by inhalation of vapour, remove to fresh air. If breathing difficulty persists or occurs later, consult a doctor and have MSDS ready. If swallowed, do NOT induce vomiting. Give water or milk. CONTACT DOCTOR OR POISONS INFORMATION CENTRE Australia 131126. In case of eye contact, flush immediately with water for fifteen minutes and call a doctor. In case of skin contact, remove contaminated clothing and wash skin first with Methylated Spirit, then wash with soap and water.

**PRODUCT IDENTIFICATION:**  
UN No.: 1263  
D.G. Class: 3  
CAS No.: PROPRIETARY  
HAZCHEM: 3[Y]  
PACK. GRP.: III  
Correct Shipping Name: PAINT  
Manufacturers MANCODE: URECOAT

**Notice to Readers:**

Urethane Coatings make no representation as to the completeness and accuracy of the data contained in this Technical Data Sheet. It is the user's obligation to evaluate and use this data, and to comply with all relevant Commonwealth, State and Local Government laws and regulations. Urethane Coatings shall not be responsible for loss, damage or injury resulting from reliance upon or failure to adhere to any recommendations contained herein, from abnormal use of the material, or from any hazard inherent in the nature of the material.

**End of Technical Data Sheet**