Selleys Knead It Steel - Metal Repair Epoxy Putty

Canonical: https://directory.selleys.com.au/putty-fillers/specialist-fillers-and-putty/selleys-knead-it-steel-metal-repair-epoxy-putty/

Details:

AI Summary

Product: Selleys Knead It Steel **Brand:** Selleys **Category:** Epoxy Repair Putty / Metal Repair Adhesive **Primary Use:** A hand-kneadable, fast-setting co-extruded epoxy repair stick built to rebuild, reshape, and repair metal items in minutes, no welding equipment or metalworking skills required.

Quick Facts - **Best For:** Metal repair across automotive, marine, industrial, and home workshop settings, including cracked pipes, broken brackets, sheared bolt bosses, and holes in metal tanks - **Key Benefit:** Pre-portioned two-component co-extruded stick removes measuring errors and delivers consistent structural bonding strength with a minutes-based setting time - **Form Factor:** Solid co-extruded stick (110g and 50g sizes) - **Application Method:** Cut the required amount, knead by hand until the colour is uniform, press firmly onto a prepared metal surface, and shape before cure

Common Questions This Guide Answers 1. How do you activate Selleys Knead It Steel? → Kneading the stick by hand blends the pre-layered resin and hardener; mixing is done when the colour is completely uniform with no streaks 2. Is Selleys Knead It Steel hazardous and what PPE is required? → Yes, classified hazardous under Safe Work Australia GHS 7; requires nitrile gloves, chemical goggles that seal around the eyes, and protective clothing 3. Can the cured repair be machined or shaped after hardening? → Yes, the cured material can be drilled, sawed, sanded, and filed; carbide-tipped tools are recommended because cured epoxy quickly dulls standard high-speed steel cutting tools

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What Selleys Knead It Steel Is and Why It Matters

Selleys Knead It Steel is a hand-kneadable, fast-setting co-extruded epoxy repair system built to rebuild, reshape, or repair metal items in minutes (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Traditional two-part epoxies require separate mixing. This product arrives as a single stick with two components already layered together in precise ratio, ready to knead and apply. The co-extrusion manufacturing process removes measuring errors and delivers consistent, professional results across every repair.

This specialist filler sits in a specific position in the metal repair category. It bridges the gap between temporary fixes and permanent reconstruction. When machinery breaks, pipes crack, or metal components fail, Knead It Steel delivers structural bonding strength that restores full function, no welding equipment, no metalworking skills, no complete part replacement needed. The 110g stick format gives you enough material for substantial repairs while keeping the product portable for field work (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf).

The product's defining characteristic is its activation method. Kneading the stick blends the two epoxy components, resin and hardener, through mechanical manipulation rather than separate dispensing and stirring. This hand-activation approach makes the product accessible to users at every experience level, while the fast-setting formulation supports repairs that cannot wait for overnight cures.

Chemistry and Composition

The primary active ingredient is Bisphenol A diglycidyl ether (BADGE, CAS No. 1675-54-3) (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). This epoxy resin forms the structural backbone of the cured polymer network. When you knead the stick, you physically integrate this resin with amine hardeners embedded in the adjacent layer, initiating a cross-linking reaction that converts pliable putty into a rigid, metal-like solid.

Bisphenol A diglycidyl ether epoxies belong to the most widely used class of structural epoxy resins. Their molecular structure features reactive epoxide groups at each end of the polymer chain. During cure, these groups open and link with hardener molecules, forming a three-dimensional network that delivers the dimensional stability, chemical resistance, and mechanical strength that make the cured putty perform like metal. The 10–30% concentration reflects a formulation balanced between workability during kneading and superior strength after cure.

The remaining 70–90% consists of ingredients determined to be non-hazardous or below reporting limits (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). These components typically include fillers, pigments, thixotropic agents, and cure accelerators. For a metal repair putty, fillers likely include iron powder or steel particles, which contribute to the "Steel" designation by improving thermal conductivity, increasing density, and strengthening the bond to metal substrates. The co-extruded format requires careful rheological tuning to keep the two layers distinct until kneading, then blend them uniformly once activated.

The epoxy matrix is thermosetting, meaning the curing reaction is irreversible. Once cross-linking begins, you cannot re-soften the material with heat or solvents. This permanence is essential for structural repairs. It also means working time matters — once kneaded, apply and shape the putty before it hardens beyond workability.

Applications and Repair Capabilities

Selleys Knead It Steel is specifically formulated for items made of metal (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). That substrate focus sets it apart from general-purpose epoxy putties that spread themselves thin across every material. The formulation chemistry and filler package are optimised for metal-to-metal adhesion, thermal expansion compatibility with ferrous and non-ferrous metals, and the mechanical properties required for load-bearing repairs.

Practical applications cover three primary functions: rebuilding missing or damaged sections, reshaping deformed components, and repairing cracks or holes. In rebuilding scenarios, you can reconstruct broken mounting tabs, replace sheared bolt bosses, or build up worn threads. The putty adheres to existing metal and cures with enough compressive strength to restore full functionality. For reshaping, the material moulds over bent or crushed areas to return components to their original geometry, particularly useful for housing repairs or cosmetic restoration of metal enclosures.

Crack and hole repair is the most common use case. Hairline cracks in cast iron, fractures in steel brackets, and punctures in metal tanks can all be sealed and reinforced. The fast-setting characteristic matters here — leaking pipes cannot wait for 24-hour cure cycles, and machinery downtime costs accumulate by the hour. The minutes-based setting time means production can resume or leaks can be stopped within the same work session.

The product performs in environments where metal components face mechanical stress, vibration, and exposure to oils, fuels, and industrial chemicals. Epoxy matrices generally withstand petroleum products, hydraulic fluids, and mild acids better than polyester or acrylic alternatives. That makes Knead It Steel a sound choice for automotive, marine, industrial equipment, and home workshop applications where metal parts encounter these substances regularly.

Kneading and Application Technique

The application process starts with surface preparation, though specific procedures are not detailed in the safety documentation (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Standard epoxy bonding principles apply: metal surfaces must be clean, dry, and roughened. Oils, greases, rust, and paint prevent molecular contact between the epoxy and the metal substrate, resulting in weak adhesion or complete bond failure. Abrasion with emery cloth, wire brushing, or light grinding creates the micro-texture that maximises bonding area.

To activate the putty, cut the required amount from the stick and knead it by hand. The two distinct layers, typically different colours, must be worked together until the colour is completely uniform throughout. This colour change is a clear visual indicator that mixing is complete. Incomplete kneading leaves pockets of unreacted resin or hardener, creating weak spots in the cured repair. The physical act of kneading also generates heat from friction and polymer entanglement, which accelerates the initial stages of the curing reaction.

Working time after kneading is governed by the exothermic cure reaction. As cross-linking proceeds, the putty's viscosity increases, making it progressively harder to shape and conform to surfaces. Complete all shaping, smoothing, and final positioning before the material becomes too stiff to manipulate. The exact working time depends on ambient temperature — warmer conditions accelerate cure, while cooler temperatures extend workability. The product description emphasises "fast setting," indicating a working window measured in minutes rather than tens of minutes (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf).

Apply the kneaded putty with firm pressure to ensure solid contact with the metal substrate. Press it into cracks, over holes, or around damaged areas, eliminating air voids that would compromise structural integrity. For vertical or overhead applications, the putty must hold sufficient green strength to resist sagging before cure. Shape the repair using gloved fingers, spatulas, or tools wetted with water to prevent sticking. Achieve final contours during the workable phase — post-cure machining is possible, as the hardened material can be drilled, sawed, sanded, and filed, though carbide-tipped tools will last longer given the hardness of the cured epoxy.

Personal Protective Equipment and Handling Precautions

Selleys Knead It Steel is classified as hazardous under Safe Work Australia GHS 7 criteria, carrying three specific hazard statements that dictate required precautions (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). H315 indicates the material causes skin irritation, H317 warns it may cause allergic skin reactions, and H319 specifies it causes serious eye irritation (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). These classifications reflect the epoxy resin's reactivity — the same chemistry that creates strong bonds also reacts with skin proteins, potentially triggering irritation or sensitisation.

Mandatory personal protective equipment includes protective gloves, protective clothing, and eye/face protection (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). For gloves, nitrile rubber suits intermittent contact, though the final assessment must account for variations in glove construction and local conditions (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Nitrile provides a reliable barrier against epoxy resins while maintaining the tactile sensitivity needed for kneading and shaping. Disposable nitrile gloves work well for single repairs; for extended use, thicker chemical-resistant nitrile gloves rated for epoxy exposure offer longer-lasting protection.

Eye protection is non-negotiable. Chemical goggles that seal around the eyes prevent splashes or putty fragments from contacting the cornea (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Standard safety glasses with side shields do not provide adequate protection against liquid splashes. The H319 classification — serious eye irritation — means eye contact requires immediate and sustained rinsing, making proper eye protection the most important line of defence.

Precautionary statement P261 advises avoiding breathing dust, fume, gas, mist, vapours, or spray (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). While kneading and applying the putty at room temperature generates minimal airborne exposure, grinding or machining the cured epoxy creates dust that must not be inhaled. Work in ventilated areas and use appropriate respiratory protection if dust-generating operations are necessary.

Contaminated work clothing must not leave the workplace (P272), and all exposed skin must be washed thoroughly after handling (P264) (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Wash hands before eating, drinking, smoking, or using the toilet, and wash contaminated clothing and protective equipment before reusing (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). These hygiene practices prevent secondary exposure and reduce sensitisation risk from repeated low-level contact.

Skin Sensitisation and Allergic Reaction Risk

Selleys Knead It Steel carries a Skin Sensitisation Category 1 classification (or 1B where sub-categories apply) (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Understanding this designation matters for managing long-term risk. Sensitisation differs from irritation. Irritation occurs immediately upon contact in most people. Sensitisation is an immunological process where initial exposures may produce no symptoms, but the immune system becomes primed to react. Subsequent exposures can trigger allergic contact dermatitis even when protective measures are in place.

Bisphenol A diglycidyl ether epoxy resins are known sensitisers. Once sensitised, individuals may develop reactions to minute quantities that previously caused no effect. Reactions can include redness, itching, blistering, and dermatitis that extends beyond the contact area. Sensitisation is generally permanent — once the immune system recognises epoxy resin as an allergen, sensitivity remains for life, and reactions to other epoxy-containing products become possible.

The practical implication is strict prevention from the outset. If skin contact occurs, immediately remove contaminated clothing and flush skin with running water, continuing until advised to stop by a Poisons Information Centre or doctor, or for 15 minutes, then seek medical evaluation (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). If skin irritation or rash occurs, get medical advice immediately (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Effects may be delayed, so symptoms appearing hours after exposure still require medical assessment (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf).

For individuals with known epoxy sensitivity, alternative repair methods must be considered. No level of protective equipment fully eliminates risk for sensitised individuals, as airborne exposure or incidental contact through gaps in PPE can trigger reactions. Occupational health protocols in industrial settings typically remove sensitised workers from epoxy exposure entirely.

First Aid and Emergency Response

If eye contact occurs, hold eyelids apart and flush continuously with running water, continuing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes, then seek medical care (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Remove contact lenses if present and easy to do, and continue rinsing (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). If eye irritation persists, get medical attention (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). The 15-minute minimum flush time is not arbitrary — it represents the duration required to dilute and remove epoxy resin from ocular tissues. Stopping short leaves reactive material in contact with the eye, allowing continued damage.

For skin contact, remove contaminated clothing and flush skin and hair with running water, continuing until advised to stop by the Poisons Information Centre or doctor, or for 15 minutes, then seek medical evaluation (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Remove contaminated clothing immediately to prevent continued exposure through absorbed material (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Effects may be delayed, so medical evaluation is

necessary even when initial symptoms appear minor (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf).

If ingestion occurs, rinse mouth with water but do not induce vomiting (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Give a glass of water to drink, and never give anything by mouth to an unconscious patient (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). If vomiting occurs naturally, give additional water and seek medical advice (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). The prohibition against induced vomiting prevents aspiration risk — if epoxy putty is regurgitated and enters the lungs, it can cause severe pneumonitis.

For inhalation exposure, remove the victim from the exposure area without becoming a casualty yourself, remove contaminated clothing, loosen remaining clothing, allow the patient to assume the most comfortable position, keep warm, and keep at rest until fully recovered (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Seek medical advice if effects persist (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf).

Australia's Poisons Information Centre operates at 131 126; New Zealand's operates at 0800 764 766 (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). In all cases requiring medical attention, have the product container or label available (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Medical personnel need to know the exact formulation to provide appropriate treatment, and the hazard information on the label guides their response.

Fire Behaviour and Combustion Hazards

Selleys Knead It Steel is classified as combustible material (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). While not highly flammable, it will burn when exposed to sufficient heat or open flame. The organic epoxy resin matrix is the combustible component — polymers derived from petroleum feedstocks contain stored chemical energy that releases during combustion. In fire scenarios involving Knead It Steel, suitable extinguishing media include water fog, fine water spray, alcohol-resistant foam, standard foam, dry chemical powder, or carbon dioxide (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf).

The specific hazard that sets epoxy fires apart from ordinary combustibles is toxic fume generation. On burning or decomposing, the material may emit toxic fumes (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Epoxy decomposition can produce carbon monoxide, carbon dioxide, nitrogen oxides, and various organic volatiles depending on combustion temperature and oxygen availability. These combustion products are respiratory irritants and asphyxiants at high concentrations.

Firefighters responding to incidents involving this product must wear self-contained breathing apparatus and suitable protective clothing if there is risk of exposure to vapour or products of combustion or decomposition (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). Standard structural firefighting gear provides thermal protection but does not filter toxic gases — SCBA is essential for respiratory safety. The qualifier "if risk of exposure" acknowledges that small quantities burning in well-ventilated outdoor areas may not generate hazardous concentrations, but enclosed fires or large-scale involvement require full respiratory protection.

The product is not classified as Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road & Rail or New Zealand NZS5433: Transport of Dangerous Goods on Land (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). This means it does not require placarding, special segregation, or manifesting during transport. The combustible classification does not meet the threshold for Dangerous Goods status, which requires more stringent criteria related to flash point, flammability, and fire propagation rate.

Spill Management and Cleanup Procedures

For small spills, wear protective equipment to prevent skin and eye contamination, avoid inhaling vapours or dust, wipe up with absorbent materials such as clean rags or paper towels, and collect the residue (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). The emphasis on protective equipment during cleanup reflects the same hazards present during normal use — skin and eye contact must be prevented even when handling spilled material.

Avoiding inhalation of vapours or dust during cleanup covers two scenarios. Fresh, uncured putty may release trace volatiles from the epoxy formulation, particularly if the spill involves kneaded material undergoing active cure. More significantly, if dried or partially cured putty requires mechanical removal, scraping or abrading generates dust particles that must not be breathed. Normal application produces minimal airborne exposure, but cleanup of hardened material can create respirable particles that demand attention.

Absorbent wiping prevents the putty from spreading and makes collection straightforward. Paper towels and rags pick up the sticky, viscous material more effectively than sweeping or vacuuming, which can smear it across larger surface areas. Collect all contaminated absorbent material and putty residue for disposal — leaving traces on surfaces creates ongoing skin contact hazards for subsequent workers or building occupants.

The documentation specifies small spills but does not define the threshold between small and large. In practice, small spills are quantities manageable with simple mechanical collection — a dropped stick, material squeezed from application, or minor packaging leakage. Larger spills involving multiple units or industrial quantities require containment measures, potentially including absorbent booms, spill pads, and formal waste characterisation before disposal.

Disposal Requirements and Regulatory Compliance

Dispose of contents and container in accordance with local, regional, national, and international regulations (P501) (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). This precautionary statement places disposal responsibility within the regulatory framework of the user's jurisdiction, acknowledging that requirements vary globally. In Australia, waste classification and disposal are governed by state and territory environmental protection authorities, with specific rules for hazardous chemical waste.

Uncured epoxy putty typically qualifies as hazardous waste because of its reactive epoxy content and sensitisation potential. It cannot legally be disposed of in ordinary household rubbish in most jurisdictions. Fully cured epoxy presents different disposal considerations — once cross-linking is complete, the material is chemically inert and non-reactive, potentially qualifying for disposal as solid waste rather than hazardous waste. However, the presence of proprietary fillers and additives may still impose restrictions.

For commercial and industrial users, disposal usually involves contracting with licensed hazardous waste haulers who transport the material to approved treatment facilities. Small quantities from household repairs may be accepted at household hazardous waste collection events, which many councils operate periodically. The specific pathway depends on quantity, curing status, and local infrastructure.

The product's Poison Schedule is listed as "Not Applicable," indicating it does not fall under the Australian Poisons Standard scheduling system (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). This means it is not regulated as a poison requiring special handling, storage, or sale restrictions under therapeutic goods or pharmacy legislation. That said, this does not exempt it from workplace health and safety requirements or environmental disposal regulations — the GHS hazard classifications still apply.

Keep out of reach of children, and read carefully and follow all instructions (P102, P103) (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf).

Product Variants and Packaging Information

Selleys Knead It Steel is available in 110g and 50g sizes (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). The 110g format carries product codes 100059 and 102658, with barcodes 9300697110152 and 9300697130389 respectively (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). The 50g variant's product code and barcode are not specified in source documentation (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf). These sizes address different use cases — the 110g stick delivers material for substantial repairs or multiple smaller fixes, while the 50g size reduces waste for single-application needs or infrequent users.

The co-extruded stick format is the defining packaging innovation. Rather than two separate tubes or cartridges requiring manual metering and mixing, the product arrives as a single solid stick with resin and hardener components arranged in concentric layers or side-by-side orientation. This removes measurement uncertainty and mixing inconsistency that undermine traditional two-part epoxies, especially when users estimate ratios by eye or use contaminated mixing tools.

Packaging for epoxy products must prevent premature curing during storage. The stick format employs barrier packaging that excludes moisture and oxygen, both of which can initiate slow curing reactions during shelf life. The plastic wrapper or tube housing the stick maintains separation between the two epoxy components until the user cuts and kneads them. Once the package is opened and the stick exposed to air, the unused portion may experience accelerated curing at the cut surface, though the bulk material remains protected if properly re-sealed.

The metal content implied by the "Steel" name and the focus on metal repairs points to a formulation that includes iron or steel particulate fillers. These fillers serve multiple functions: they increase density, making the cured putty closer in weight to the metal substrates being repaired; they improve thermal conductivity, allowing heat to dissipate more evenly across the repair; they provide colour matching to ferrous metals; and they may improve corrosion resistance by creating a galvanic similarity to the base metal. The exact filler loading is not disclosed, but the 10–30% epoxy resin content indicates the remaining 70–90% includes substantial inorganic filler content (SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf).

Expert Tips for Optimal Results

Temperature management significantly affects both working time and final strength. Conduct repairs at room temperature when possible — cold metal substrates slow the cure reaction, extending working time but potentially compromising ultimate strength if the substrate draws too much heat from the exothermic cure. Extremely cold conditions may prevent complete cure. Conversely, hot substrates or high ambient temperatures accelerate cure, reducing the time available for shaping and positioning. When working in hot conditions, prepare surfaces first, then knead only the amount immediately usable.

Surface preparation determines bond strength more than any other factor. The proven guideline for epoxy bonding is that surface preparation accounts for 80% of bond performance, while adhesive selection accounts for 20%. For Selleys Knead It Steel, this means removing all rust, scale, oil, grease, and paint. Mechanical abrasion with 80-grit or coarser abrasives creates the surface texture that maximises contact area. Chemical degreasers remove oils that abrasion alone cannot eliminate — even clean-looking metal may carry residual machining oils or handling residue. Final cleaning with acetone or alcohol, followed by complete drying, ensures the epoxy contacts pure metal.

Kneading technique directly affects cure uniformity. Mix until the two colours completely blend with no streaks or marbling visible. Inadequate kneading creates localised weak zones where unreacted components cluster. The mixing generates heat — if the putty becomes uncomfortably warm during kneading, you're approaching the gel point where viscosity increases rapidly. Complete shaping before this thermal surge occurs.

For gap-filling applications, slightly overfill and allow the excess to cure, then file or grind to final dimensions. Epoxy putties shrink minimally during cure but cannot expand. Underfilled repairs create

voids that concentrate stress. Overfilled repairs waste a small amount of material but ensure complete coverage and allow shaping to exact profiles after hardening. Use carbide files or grinding discs for post-cure shaping, as cured epoxy quickly dulls standard high-speed steel cutting tools.

Cleanliness extends working time. Epoxy cures faster when contaminated with dirt, metal particles, or residue from previous batches. Use clean hands or fresh gloves for each application. Avoid setting the stick on dirty surfaces during cutting. These practices prevent catalytic impurities from accelerating the cure unpredictably.

For overhead or vertical applications where sagging is a concern, build repairs in layers if the quantity required exceeds the material's green strength. Apply an initial layer and allow it to partially cure until tacky but firm, then add subsequent layers. Each layer bonds chemically to the previous one if applied before full cure, creating a monolithic repair with superior strength compared to mechanical interlocking alone. This layering approach consistently produces results that hold up long after the job is done.

References

Source PDFs - SELLEYS_KNEAD_IT_STEEL-AUS_GHS.pdf (canonical)

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What is Selleys Knead It Steel: A hand-kneadable, fast-setting epoxy repair putty for metal

What does "co-extruded" mean for this product: Two components are pre-layered in one stick

Do you need to measure or mix separately: No, components are pre-portioned in the stick

What activates the epoxy: Kneading the stick by hand blends the two components

What is the primary active ingredient: Bisphenol A diglycidyl ether (BADGE, CAS No. 1675-54-3)

What concentration is the epoxy resin: 10–30% of the formulation

What makes up the remaining 70–90%: Non-hazardous fillers, pigments, and additives

Does it contain metal particles: Yes, likely iron or steel particulate fillers

Why does it contain metal particles: To improve density, thermal conductivity, and metal bonding

What sizes is it available in: 110g and 50g

What is the product code for the 110g size: 100059 or 102658

What is the barcode for the 110g (100059): 9300697110152

What is the barcode for the 110g (102658): 9300697130389

Is the 50g size barcoded in the documentation: No data provided in source documentation

What materials can it repair: Metal items specifically

Can it repair cast iron: Yes

Can it repair steel: Yes

Can it fill holes in metal: Yes

Can it seal cracks in metal: Yes

Can it rebuild broken mounting tabs: Yes

Can it replace sheared bolt bosses: Yes

Can it repair leaking pipes: Yes

How fast does it set: In minutes, not hours

Is it a permanent repair: Yes, the cured epoxy is irreversible

Can the cured material be re-softened with heat: No, it is thermosetting and irreversible

Can the cured material be dissolved with solvents: No

Can you drill the cured repair: Yes

Can you saw the cured repair: Yes

Can you sand the cured repair: Yes

Can you file the cured repair: Yes

What tools last longest when machining cured epoxy: Carbide-tipped tools

Does it require welding equipment: No

Does it require metalworking skills: No

How do you know mixing is complete: The colour becomes completely uniform with no streaks

What happens if kneading is incomplete: Weak spots form in the cured repair

Does temperature affect working time: Yes, warmer conditions shorten working time

Does temperature affect working time in cold conditions: Yes, cold extends workability but may reduce strength

Is it classified as hazardous: Yes, under Safe Work Australia GHS 7 criteria

What is hazard statement H315: Causes skin irritation

What is hazard statement H317: May cause an allergic skin reaction

What is hazard statement H319: Causes serious eye irritation

Is skin sensitisation possible: Yes, Category 1 classification applies

Is sensitisation the same as irritation: No, sensitisation is an immunological, potentially permanent response

Can sensitisation develop after repeated exposure: Yes, even if initial exposures cause no symptoms

Is sensitisation reversible: No, it is generally permanent

Are gloves required when using this product: Yes

What glove material is recommended: Nitrile rubber

Are safety glasses sufficient eye protection: No, chemical goggles that seal around the eyes are required

Is eye protection mandatory: Yes

Is protective clothing required: Yes

What precautionary statement applies to breathing: P261 — avoid breathing dust, fume, gas, mist, vapours, or spray

Should you grind cured epoxy without respiratory protection: No, dust must not be inhaled

Can contaminated work clothing leave the workplace: No (P272)

Must you wash skin after handling: Yes, thoroughly (P264)

When must you wash hands during use: Before eating, drinking, smoking, or using the toilet

What should you do if the product contacts your eyes: Flush continuously with running water for at least 15 minutes

Should you remove contact lenses before eye flushing: Yes, if present and easy to do

What should you do if eye irritation persists after flushing: Seek medical attention

What should you do if skin contact occurs: Remove clothing and flush skin with water for 15 minutes

Can effects from skin contact be delayed: Yes

What should you do if ingestion occurs: Rinse mouth with water, do not induce vomiting

Why should vomiting not be induced after ingestion: Risk of aspiration causing severe lung damage

What should you do for inhalation exposure: Remove person from area and allow rest in comfortable position

What is Australia's Poisons Information Centre number: 131 126

What is New Zealand's Poisons Information Centre number: 0800 764 766

Is this product flammable: It is classified as combustible, not highly flammable

What extinguishing media can be used: Water fog, foam, dry chemical powder, or carbon dioxide

Does burning epoxy produce toxic fumes: Yes

Must firefighters wear breathing apparatus: Yes, SCBA if risk of exposure to combustion products

Is this product classified as Dangerous Goods for transport: No

Does it require transport placarding: No

What is the Poison Schedule classification: Not Applicable

Is it suitable for children to use: No, keep out of reach of children

What surface preparation is required before application: Clean, dry, and mechanically abraded metal surface

Why must oil be removed before application: Oil prevents molecular bonding between epoxy and metal

How should you remove oil from metal before repair: Use a chemical degreaser followed by acetone or alcohol

Should you overfill or underfill a gap repair: Slightly overfill, then file to final dimensions after cure

Can repairs be built up in layers: Yes, apply layers while previous layer is still tacky

Do layers bond chemically when applied before full cure: Yes, creating a monolithic repair

How should small spills be cleaned up: Wipe with absorbent rags or paper towels while wearing PPE

Can uncured epoxy waste go in household trash: No, typically classified as hazardous waste

Can fully cured epoxy waste go in household trash: Depends on local regulations

How should waste be disposed of: In accordance with local, regional, and national regulations

Is the curing reaction exothermic: Yes, it generates heat during cross-linking

What does the heat during kneading indicate: The curing reaction is beginning

Does the product require overnight curing: No, it sets in minutes

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Label Facts Summary

> **Disclaimer:** All facts and statements below are general product information, not professional advice. Consult relevant experts for specific guidance.

Verified Label Facts

Product Identity & Packaging - Product name: Selleys Knead It Steel - Format: Co-extruded epoxy repair stick - Available sizes: 110g and 50g - 110g product codes: 100059 and 102658 - 110g barcode (100059): 9300697110152 - 110g barcode (102658): 9300697130389 - 50g product code and barcode: No data provided in source documentation

Composition - Primary active ingredient: Bisphenol A diglycidyl ether (BADGE, CAS No. 1675-54-3) - Epoxy resin concentration: 10–30% of formulation - Remaining 70–90%: Ingredients determined to be non-hazardous or below reporting limits (fillers, pigments, additives) - Formulation type: Two-component co-extruded epoxy (resin and hardener layers) - Curing chemistry: Thermosetting; irreversible cross-linking reaction

Substrate Specification - Formulated specifically for: Metal items

Hazard Classifications (Safe Work Australia GHS 7) - Product classified as: Hazardous - H315: Causes skin irritation - H317: May cause an allergic skin reaction - H319: Causes serious eye irritation - Skin Sensitisation classification: Category 1 (or 1B where sub-categories apply) - Fire classification: Combustible material - Dangerous Goods (transport, AU/NZ): Not classified - Poison Schedule: Not Applicable

Required Personal Protective Equipment (label-mandated) - Protective gloves: Required; nitrile rubber specified for intermittent contact - Eye/face protection: Required; chemical goggles that seal around the eyes - Protective clothing: Required

Precautionary Statements - P261: Avoid breathing dust, fume, gas, mist, vapours, or spray - P264: Wash skin thoroughly after handling - P272: Contaminated work clothing must not leave the workplace - P102: Keep out of reach of children - P103: Read carefully and follow all instructions - P501: Dispose of contents and container in accordance with local, regional, national, and international regulations

First Aid (label-specified) - Eye contact: Flush continuously with running water for minimum 15 minutes; remove contact lenses if present and easy to do; seek medical attention if irritation persists - Skin contact: Remove contaminated clothing; flush skin with running water for 15 minutes; seek medical evaluation; effects may be delayed - Ingestion: Rinse mouth with water; do not induce vomiting; give water to drink; do not give anything by mouth to an unconscious person - Inhalation: Remove person from exposure area; allow rest in comfortable position; seek medical advice if effects persist

Emergency Contacts - Australia Poisons Information Centre: 131 126 - New Zealand Poisons Information Centre: 0800 764 766

Fire Response (label-specified) - Suitable extinguishing media: Water fog, fine water spray, alcohol-resistant foam, standard foam, dry chemical powder, carbon dioxide - Firefighter requirement: Self-contained breathing apparatus (SCBA) if risk of exposure to combustion products or

decomposition fumes - Combustion hazard: May emit toxic fumes on burning or decomposing

Post-Cure Machinability (documented) - Cured material can be: Drilled, sawed, sanded, and filed

Setting Characteristics (documented) - Setting time: Minutes (not hours); described as "fast setting" - Working time affected by: Ambient temperature

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General Product Claims

- Knead It Steel bridges the gap between temporary fixes and permanent reconstruction - Eliminates the need for welding equipment, metalworking skills, or complete part replacement - Co-extrusion eliminates measuring errors and delivers consistent, professional results - Formulation is optimised for metal-to-metal adhesion and thermal expansion compatibility with ferrous and non-ferrous metals - Suitable for automotive, marine, industrial equipment, and home workshop applications - Performs in environments with mechanical stress, vibration, oils, fuels, and industrial chemicals - Epoxy matrices generally withstand petroleum products, hydraulic fluids, and mild acids better than polyester or acrylic alternatives - Surface preparation accounts for approximately 80% of bond performance - Layered application before full cure creates a monolithic repair stronger than mechanical interlocking alone - Carbide-tipped tools last longer than standard high-speed steel tools when machining cured epoxy - Slightly overfilling gap repairs and filing to final dimensions after cure produces superior results - Cold substrates may draw heat from the exothermic cure and potentially compromise ultimate strength - "If it's Selleys, it works" (brand marketing statement)

Related Products & Brand Context

Selleys Knead It Steel - Metal Repair Epoxy Putty is manufactured by Selleys, a brand operating as a division of DuluxGroup (Australia) Pty Ltd. Selleys is widely known across the Australian home improvement and trade markets for adhesives, sealants, fillers, and repair products. Within that portfolio, Knead It Steel sits in the **Home & Garden > Adhesives & Repair Putty** category, positioned specifically as a hand-kneadable two-part epoxy solution for metal substrates. The "Steel" designation in the product name signals that this is the metal-focused variant within what appears to be a broader Knead It repair putty line, though the available knowledge graph context does not detail named sibling variants, so none are referenced here.

Within its category, Knead It Steel is differentiated by its material specificity and performance profile. It is formulated to be non-rusting and fuel-resistant, sets in under ten minutes, and — critically — becomes workable (drillable, sawable, sandable, fileable, tappable, and paintable) within one hour of mixing. It also offers heat resistance up to 120°C continuously and 140°C intermittently, which separates it from general-purpose repair putties that carry no thermal rating. These characteristics position it as a practical choice for mechanical and automotive repair contexts, not just cosmetic patching.

Someone reaching for Knead It Steel is likely to need a few complementary products alongside it. Because the mixed putty must bond to bare metal, surface preparation materials — such as sandpaper or a wire brush to remove rust and loose coatings — are a practical pairing before application. The safety data for this product also specifies nitrile rubber gloves and chemical goggles as required PPE during handling, so those protective items are a direct adjacency for any buyer who does not already have them. Once the repair has cured, the product's paintability means standard metal primers and topcoats are a natural next step for finishing the repair to match surrounding surfaces.

Because Selleys falls under DuluxGroup, buyers working on larger surface restoration projects may find complementary products from other brands in that group relevant, though the knowledge graph context provided does not detail specific cross-brand product relationships for this item.