

PERMOHONAN PERSETUJUAN MATERIAL

Grouting

Nama Proyek	: Perbaikan Retak Rigid Jalan Tol Pasuruan Probolinggo PT. Trans-Jasa Paspro Jalan Tol
Nomor SPK	: 24/CTI-AB/III/2026R1
Lokasi Pekerjaan	: Tol Pasuruan Probolinggo
Item Pekerjaan	: Grouting
Tanggal Pengajuan	: 16 September 2026
Diajukan Oleh	: Ramdhani Amrullah

1. MATERIAL YANG DIAJUKAN

1.1.

Nama Produk	: Consol Patch Raod	
Packaging	: 30 Kg/Bag	
Keterangan	: CONSOL PATCH ROAD is a one component, cement-based product, very rapid hardening repair mortar. It is ready to use blend which requires only the site addition of clean water to produce fast setting, high strength flowable repair concrete.	

1.2.

Nama Produk	: Consol Carck Seal	
Packaging	: 6 Kg/Set	
Keterangan	: CONSOL CRACK SEALER is a solvent-free, 2-component low viscosity-liquid, based on high strength epoxy resins. After mixing, it is injected into cavities and cracks in concrete where it cures to a rigid high strength material.	

1.3.

Nama Produk	: Consol Cosmetic	
Packaging	: 20 Kg/Set	
Keterangan	: CONSOL COSMETIC is a polymer modified, 2 component, cementitious coating. Designed for use on concrete, mortar, and masonry substrates. Easily applied by brush, roller, or spray equipment.	

2. LEMBAR PERSETUJUAN

Diajukan Oleh	Diperiksa Oleh	Disetujui Oleh
 (Ramdhani Amrullah)	(_____)	(_____)
Tanggal: _____	Tanggal: _____	Tanggal: _____



CONSOL PATCH ROAD

Rapid Set and High Strength Repair Mortar

DESCRIPTION

CONSOL PATCH ROAD is a one component, cement-based product, very rapid hardening repair mortar. It is ready to use blend which requires only the site addition of clean water to produce fast setting, high strength flowable repair concrete.

RECOMMENDED FOR

CONSOL PATCH ROAD is easy to apply and is recommended for:

- Applications where traffic disruption must be minimized
- Structural repair material for concrete roadways, parking structures, bridges, dams, and ramps
- Application on-grade, above-grade, and below-grade on concrete surfaces
- Highway overlays and repairs
- Provides an economical solution for horizontal patching of concrete and mortar.

BENEFITS

CONSOL PATCH ROAD provides the following properties of benefit such as:

- Easy to use, ready to mix powder
- Easy to mix, only add water
- Fast setting
- Rapid high early strength
- High final strength
- Resistant to shrinkage
- Pourable/flowable, easy and fast to place

PRODUCT DATA

Form

Powder

Colour

Grey

Packaging

30 kg/bag

Mixing Density

~2.3 kg/L (3.3 L water per 30 kg bag)

Mixing Ratio

3.3 L per 30 kg bag (water per powder = 11% by weight)

Pot Life (30 °C)

~15 minutes after adding powder to the water

Shelf-Life

9 months if stored properly in original, unopened, and undamaged sealed packaging in dry conditions

Storage

Store in dry condition, cool, shaded place. Protect from frost, direct sunlight, and moisture.

Storage Conditions

Store in dry condition between 10 °C - 35 °C

TECHNICAL DATA

Chemical Base

Cement, selected fillers and aggregates, special additives

Compressive Strength (ASTM C-109)

3 Hours	~20 N/mm ²
4 Hours	~30 N/mm ²
1 Day	~40 N/mm ²
3 Days	~45 N/mm ²
7 Days	~50 N/mm ²
28 Days	~55 N/mm ²

Flexural Strength

28 Days	>7 N/mm ²
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Bond Strength (by pull-off test)

28 Days	>1.5 N/mm ²
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Material Temperature

5 °C - 30 °C

Substrate Temperature

5 °C - 30 °C

Setting Time

~60 menit

INSTRUCTION FOR USE

Surface Treatment

Prepare surface area by cleaning. Remove oil, grease and other bond-inhibiting materials. Repair area is not less than 10 mm deep.

Preparation work should be done by appropriate means. Obtain an exposed aggregate surface with a minimum surface profile of 3 mm on clean, sound concrete. To ensure optimum repair results, the effectiveness of decontamination and preparation should be assessed by a pull-off test. Saw cutting of edges is recommended.

The surface of the concrete must be hard and targeted to get good adhesion. Before applying, surface must be wetted to saturated surface dry (SSD).

Mixing

Put 3.3 liters of water added to the mixing vessel. Add slowly 1 bag (30 kg) of **CONSOL PATCH ROAD** while continuing to mix. Mix continuously for 3 minutes until a lump free and consistency is achieved. Use a mixing paddle or appropriately sized mortar mixer. Use a mechanically low speed drill (300 - 600 rpm). After allowing the mortar to rest for 3 minutes, remix it briefly before applying.

Application

Maintain the required minimum temperature during application and for at least 24 hours afterward to ensure optimal curing of the product. The prepared substrate should be pre-soaked-preferably for 24 hours, but at minimum 2 hours-prior to the application of **CONSOL PATCH ROAD**. Ensure that all excess water has been removed from the formwork before installation and that the formwork is properly resealed.

CONSOL PATCH ROAD should be poured into the prepared formwork until the void is completely filled. Apply the mortar to the desired thickness and level using a screeding bar, trowel, or wooden board. Thicker layers may be applied in smaller repair areas or where additional reinforcement is provided. Smoothing with a trowel or finishing with a float or sponge may be performed as soon as the mortar begins to stiffen. For additional technical information of **CONSOL PATCH ROAD** contact the technical services.

CURING

Moist cure should commence immediately after finishing. If necessary, protect newly applied material from rain. In cold conditions, the repair area shall be covered with suitable insulating materials to prevent freezing.

CLEANING TOOLS

Clean all tools and application equipment with water immediately after use. Cured material/hardened can only be mechanically removed.

LIMITATION

The minimum ambient and substrate temperature shall be 7 °C and rising.

The minimum application thickness as a mortar shall be 10 mm.

Only potable water shall be used for mixing.

HANDLING PRECAUTIONS

- Avoid contact with skin and eyes
- Wear protective gloves and eye protection during work
- If skin contact occurs, wash skin thoroughly
- If in eyes, hold eyes open, flood with warm water and seek medical attention without delay.

HEALTH, SAFETY, AND ENVIRONMENTAL

For detail health, safety and environmental recommendations, please consult and follow all instruction on the Material Safety Data Sheet.



CONSOL CRACK SEALER

Low Viscosity, Semi Elastic Epoxy Resin

DESCRIPTION

CONSOL CRACK SEALER is a solvent-free, 2-component low viscosity-liquid, based on high strength epoxy resins. After mixing, it is injected into cavities and cracks in concrete where it cures to a rigid high strength material.

RECOMMENDED FOR

CONSOL CRACK SEALER is used to fill and seal cavities and crack in structural concrete such as columns, beams, foundations, decks, and water-retaining structures.

BENEFITS

CONSOL CRACK SEALER is a deeply penetrative with high adhesive qualities. Other benefits are:

- Solvent - free
- Semi elastic crack sealing
- Low viscosity
- High adhesive strength
- Hard, but not brittle
- No Shrinkage

PRODUCT DATA

Colour

Grey

Packaging

Part A	: 4 kg
Part B	: 2 kg
Part A & B	: 6 kg/set

Storage Conditions

Keep containers in a dry, shaded, cool, and well-ventilated area, away from heat sources and ignition points. Keep containers tightly closed when not in use and handle with care. Protect from direct sunlight and frost.

Shelf Life

12 months from date of production if stored properly in original, unopened and undamaged sealed packing, in dry conditions at temperatures between 18 °C and 30 °C.

TECHNICAL DATA

Density

~1.0 kg/litre

Viscosity (25 °C)

500 - 1500 cP with Brookfield Viscometer, LVT type, spindle 3, rpm 20

Pot Life (25 °C)

~20 minutes

(The potlife begins when the resin and hardener are mixed. It is shorter at high temperatures and longer at low temperatures. The greater the quantity mixed, the shorter potlife).

Compressive Strength

28 Days ~50 N/mm²

Flexural Strength

28 Days ~40 N/mm²

Tensile Strength

28 Days ~20 N/mm²

Bond Strength

28 Days ≥ 2.0 N/mm² (concrete failure)

PRECAUTIONS

Instruction

There are various application methods with different equipment required, depending on the nature of the work to be carried out.

Notes on Application/limits

Maximum width of crack 10 mm & min 0.2 mm

Minimum age of new concrete: 4-6 weeks

Minimum temperature of concrete to be injected: 10 °C



Cleaning

CONSOL CRACK SEALER should be removed from tool and equipment with thinner immediately after use. Hardened and/or cured material can only be removed mechanically.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

PRECAUTIONS

- **CONSOL CRACK SEALER** contains certain chemicals which can cause skin irritation if exposed and respiratory reaction if inhaled.
- Keep away from open light, including welding.
- Avoid contact with skin and eyes.
- Wear protective gloves and eye protection during work.
- If skin contact occurs, wash skin thoroughly.
- If in eyes, hold eyes open, flood with warm water and seek medical attention without delay.

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CONSOL COSMETIC

Polymer Modified Portland Cement Coating

DESCRIPTION

CONSOL COSMETIC is a polymer modified, 2 component, cementitious coating. Designed for use on concrete, mortar, and masonry substrates. Easily applied by brush, roller, or spray equipment. This fine-textured, abrasion resistant coating is used for protection against deicing salts and for damp-proofing/waterproofing.

RECOMMENDED FOR

CONSOL COSMETIC is used on:

- Use on grade, above, and below grade on concrete, masonry, and mortar
- Use on horizontal, vertical, and overhead surfaces, both interior and exterior
- Use as a coating over newly repaired concrete to provide a uniform appearance
- Use as a protective coating to reduce the effect of deicing salt on concrete
- Use as a protective coating for waterproofing, damp-proofing, and improved resistance to weathering
- Use on concrete and masonry substrates to improve abrasion resistance to foot traffic and light pneumatic-tire traffic
- Use to coat the backside of architectural curtain wall panels to prevent water intrusion from the outside
- Portable water tanks.

BENEFITS

The other benefit of **CONSOL COSMETIC** are:

- Bond strength ensures superior adhesion
- Increases resistance of substrate to deicing salts
- Does not create a vapor barrier
- No mix water needed, liquid co-polymer triggers special blend of cement, fillers, and admixtures
- No batching, factory proportioned unit ensures consistent composition and high quality. Non-flammable, low odor
- Easily applied to clean, sound substrates

PRODUCT DATA

Form

Part A: Powder

Part B: Liquid

Color

Natural grey cement color

Packaging

20 kg set

Storage

Dry, shaded place. Protect from direct sunlight and frost.

Shelf Life

CONSOL COSMETIC can be stored for 12 months if stored as recommended in unopened original containers.

TECHNICAL DATA

Coverage

Coverage is dependent upon substrate and porosity

Tack-Free Time

Approx. 30 minutes

Recoating Time

Allow 2 hours minimum between coats

Application Thickness

0.2 – 0.4 mm/coat

Specific Gravity

Comp A : ~ 1.20 natural grey powder

Comp B : ~ 1.02 milky white liquid

Mixing Ratio

A : B = 1 : 1

APPLICATION

Substrate

Concrete, mortar, and masonry



Surface Preparation

All surfaces to be coated must be clean, sound, and saturated surface dry with no standing water at the time of application. Remove all dust, laitance, grease, oils, curing compounds, waxes, impregnations, and other contaminants.

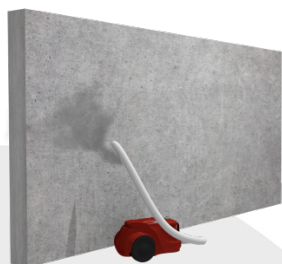
Mixing

All mixing must be done mechanically using a low-speed drill (400-600 rpm). Place approximately a half component A into a clean mixer container. While mixing, slowly add all of component B and continue to mix until achieve a uniform paste with no lumps. Be sure to scrape down sides of the mixing container at the time. Add remainder component A and continue to mix until uniformly blended.

Application

CONSOL COSMETIC should be applied over properly prepared surfaces with high-quality brushes, rollers or "hopper-type" spray equipment. Surface should be saturated surface dry prior to application. Two coats are recommended for maximum performance. Recommended thickness per coat is 0.2-0.4 mm. apply thoroughly mixed coating generously with loaded brush or roller. Always finish off with light strokes blending back into coated area for uniform appearance. For application in direct sun or on a hot substrate, pre-wet surface and allow surface water to dissipate before coating.

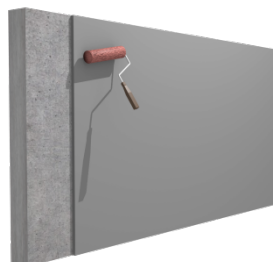
1. Cleaning Concrete Surface



2. Wet Concrete Surface



3. Coating 1



4. Coating 2



LIMITATION

- Maximum thickness of application is 0.4 mm/coat, thicker application can result in cracking
- Do not apply when rain is expected
- Minimum ambient and substrate temperature is 7°C and rising at the time of application
- For spray application, coating must be screened prior to loading of the spray hopper
- Coating may chalk and show watermarks due to weathering
- For application where coating will be subjected to immersion, three days cure is recommended
- Coating will slightly yellow with age and exposure to UV light
- As with all cement based materials, avoid contact with aluminum to prevent adverse chemical reaction and possible product failure.

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