PRODUCT CATALOG

Building & Factory / Marine Port
Airport / Tunnel + Soil Stabilization
Power Plant / Water & Sewage System
Road / Bridge
Since its founding in 1915, Denka has worked to contribute to social development and win the trust of society through manufacturing operations centered on chemical engineering. Denka have 2 subsidiary companies in Indonesia, PT. Hissan Trading Indonesia under management of Akros Trading Co., Ltd. Japan and PT. Estop Indonesia under management of Denka Chemical Construction Malaysia (Formerly known as ESTOP Sdn. Bhd).

In anticipation with the rapid growth in infrastructure and civil engineering projects in Indonesia, PT. Hissan Trading Indonesia will strive to fulfill customer needs using Japan advance technology in construction chemicals products. With the combination of ESTOP and DENKA technology, we are now geared up to provide absolute "Concrete Solutions" to the Indonesian construction industry.
OUR VISION

1 Business Portfolio Shift
Accelerate Growth of Specialty Businesses
- Healthcare
- The Environment and Energy
- High-Value-Added Infrastructure

Specialize our key operations
Work to increase “specialty grade” ratio in product lineup to secure resilience to changes in external conditions

2 Introduction of Innovative Processes
- Production process reforms
- R&D process reforms
- Operational process reforms

OUR MISSION

1 Specialty-Fusion Company
Become a Specialty-Fusion Company with a Strong Global Presence

2 Sustained Growth
Maintain Sustained Growth by Significantly Enhancing Productivity through Innovative Processes

3 Sound Growth
Secure Sound Growth through Work Style Reforms

Denka Mission

Denka Principles

Denka Value-Up Management Plan

Growth Strategies
- Business Portfolio Shift
- Introduction of Innovative Processes
- Nurture and utilize human resources

Fulfilling Our Social Responsibilities
- Place the utmost priority on safety
- Give due consideration to environmental concerns

ESG
(Environment, Social, Governance)
QUALITY POLICY

Using controlled processes, and standards, best practice and experience, we aim to provide quality products and good services, reliable and fit for their intended purpose.

Our laboratory equipped by high accuracy, and calibrated test equipment to control and maintain product quality for our customer satisfaction.

Supported by technical expert with specialist team, we commit to give best solutions for constructions problem.

We also has Research and Development facility on Malaysia and Japan site, who always works to provide great innovation and improvement on construction technology.
BUILDING & FACTORY

WATERPROOFING BASEMENT

**ESTOMAX MX 100/ MX 200**

**Specification**
Water Permeability Test at 28 days: 10.0 – 15.0 mm

**Features**
Reacts with water to form a non-soluble crystalline matrix throughout the capillary voids in the concrete.
Suitable to be used for either new or restoration waterproofing works for water retaining concrete structure.

**ESTOP ADMIX WP 2000**

**Recommended dosage**
1 - 1.5 L/100 kg cement

**Features**
Improves impermeability properties.
Allows the reduction of water cement ratio.
Increases compressive and tensile strength.

WATERSTOP

EXPANDING WATERSTOP (SWELLABLE)

**ESTOPPER HYDROPHYLIC S10 & S20**

**Specification**
- Solid content: 100%
- Shore “A” Hardness: 5-35
- Unrestrained Volumetric Expansion: 170 – 200%

**Features**
Easy installation by means of adhesives.
Tolerant of salts present in concrete and groundwater.
Sustain effective seal in wet condition.

NON EXPANDING WATERSTOP (PVC)

**ESTOPPER CJ/EJ: CENTRALLY PLACED PVC WATERSTOP**

**Features**
Simple on site jointing.
4 bulbs profile for excellent performance.
Reinforced eyeleted for positive fixing.

**ESTOPPER REARGUARD: EXTERNALLY PLACED WATERSTOP**

**Specification**
- Color: Black
- Elongation at break: >300%

WATERPROOFING WET AREAS CEMENTITIOUS

FLEXIBLE CEMENTITIOUS LIQUID APPLIED WATERPROOFING

**ESTOKOTE FLEXY**

**Specification**
- Pot life at 35°C: Approx 1 hour
- Hydrostatic Test at water pressure of 0.4 bars for 6 hours: No Penetration

**Features**
Can be applied on damp substrates.
No primer required.
Elastomeric – able to bridge cracks.

**ESTOKOTE GREY**

**Specification**
- Pull-off strength: 0.5 – 1.0 N/mm²
- Water absorption: <1.0%

**Features**
Breathable and allows transmission of water vapor from interior of building.
Non-toxicity requirements especially for potable water.

**ESTOMIX G15**

**HIGH PERFORMANCE HYDROPHOBIC AND CRYSTALLIZATION WATERPROOFING SYSTEM**

**Features**
Dual purpose waterproofing system with reacts as arepels external water thus drastically reducing water absorption and crystallization initiation process will be a long term effect due to its continuous process of crystal growth.

**ESTOFLEX GP**

**FLEXIBLE BITUMEN – RUBBER MEMBRANE**

**Features**
1 component rubberized bitumen emulsion sealing membrane that design for used as a damp proof membrane, vapor barrier waterproof and protective coating.

**ESTOKOTE CRYSTALLINE**

**CRYSTALLINE CAPILLARY WATERPROOFING SYSTEM**

**Features**
Reduce porosity by blocking capillaries and filling hairline non – structural crack (up to 0.5mm wide) that from a surface barrier.
EPOXY COATING

**Estotect E 230**
**Damp Tolerant. Solvent Free, Epoxy Resin Coating**

**Features**
- Excellent resistance to corrosion, chemical, abrasion, impact and thermal shock applied directly to mild steel and concrete.
- Can be applied on damp surfaces

**Specification**
- **Color:** Black/Brown
- **Touch dry at 25°C:** 12 hours
- **Water penetration test:** 0 mm

**Estotect Ct 450**
**Pitch Extended Epoxy Resin Coating**

**Features**
- High build in single applications
- Heavy duty corrosion protection system
- Chemical and abrasion resistant

**Specification**
- **Color:** Black/Brown
- **Touch dry at 25°C:** 12 hours
- **Water penetration test:** 0 mm

**Estotect En 600**
**Pitch Extended Epoxy Resin Coating**

**Features**
- Excellent chemical resistance
- Suitable for chemical manufacturing plants, food processing, wwtp, chemical storage

**Specification**
- **Finish:** Gloss
- **Volume solid:** 100%

FLOORING

**Estotop Sq**
**Non Metallic Dry Shake Surface Floor Hardener Compound**

**Features**
- Ready to use, dry shake colour or natural grey floor hardener for concrete slab that enhances abrasion and water resistance

**Estogard SP 30**
**Hardening and Dust/Proofing Compound for Concrete Surfaces**

**Features**
- Clear liquid, inorganic strenghtener applied to concrete surfaces. When applied to aged or green concrete penetrates deeply into the capillary pores of the concrete, reacts with free lime within the concrete to make a calcium silicate gel (CSH) that leaving a permanent, hard wearing and dust free surface.

**Estotop NF8**
**Non Ferrous Metallic Floor Hardener**

**Features**
- Provides a hard wearing, abrasion and impact resistant monolithic concrete surface when applied by the shake on method.

**Estotop Emery**
**Emery Base Monolithic Surface Floor Hardening Compound**

**Features**
- Provides a hard wearing, abrasion and impact resistant monolithic concrete surface when applied by the shake on method.

**Estop Emirror**
**Nano Composite in Organic Chemicals Concrete Strengthening System**

**Features**
- That strengthen and seals concrete topping by reacting chemically to concrete

**Estoceem Ul**
**Self Smoothing Thin Layer Underlayment**

**Features**
- Cement based self-smoothing floor underlayment system that can apply onto concrete and sound cement sand floors with minimum 20N/mm2 compressive strength.

WATERPROOFING ROOF AREAS

**Non Exposed Roof (Polyurethane)**

**Estoflex Pu 800**
**Solvent Base Moisture Cure Pu**

**Features**
- Highly flexible to withstand movement and bridge hairline crack
- Resistance to chemicals and bacterial growth

**Specification**
- **Cure time:** 12 – 24 hours
- **Touch dry at 25°C:** 2 – 3 hours
- **Standard Color:** Black

**Estoflex Pu 950**
**Solvent Free Moisture Cure Pu**

**Features**
- Suitable for external areas on wall and roof with ultra violet resistant product with low VOCs content
- Able to withstand human traffic

**Recommended dosage**
- 14–15m²/22 kg/2 coat

**Specification**
- **Cure time:** 12 – 24 hours
- **Touch dry at 25°C:** 4 – 8 hours
- **Standard Color:** Grey / Green
- **Water absorption:** <0.1%
- **Recommended thickness (WFT):** 2 coats at 1.5 ± 0.2 mm
**WATERPROOFING MEMBRANE**

**ESTOP EASYPROOF**

**Features**
- Basement Walls and Floor, toilet and kitchen
- Retaining and Tunnel Walls
- Concrete Rooftop and Car Park Deck

**Description**
Waterborne dual actions chemical that can achieved both surface and in-depth sealing by film formation and crystallisation

**Specification**
- Crack filling 0.1 – 2mm

**LIQUID POLYURETHANE – ESTOFLEX PU800 OR PU850**

**Features**
- Long life waterproofing product (>20 years)
- Resistant to a wide temperature change from 50°C to 150°C
- Excellent heat, ozone and UV resistant

**Specification**
- Specific gravity: 1.15 ± 0.5
- Shore “A” Hardness: 60 ± 5
- Elongation at break: 300%

**ESTOPROOF EPDM**

**Features**
- Excellent resistance to UV and sunlight

**Description**
As a sunlight exposed waterproofing membrane for decks, balconies, roofs and gutters. On roofs and balconies

**ESTOPROOF 200**

**COLD APPLIED SELF ADHESIVE WATERPROOF SHEET MEMBRANE**

**Features**
- 1.6 mm thick self adhesive sheet membrane
- Good adhesion to prime concrete substrate
- For basement, rooftop, toilet
- Can be applied on damp surfaces

**Specification**
- Elongation at break > 600%
- Tensile strength > 0.80 N/mm²
- Adhesion to self 4 N/mm

**ESTOPROOF 3P/4P**

**BITUMINOUS TORCH APPLIED**

**ESTOPROOF 3P/4P SLATED (GRANULE) GREEN – GREY 4.5 KG – 5 KG.**

**Features**
- For basement, rooftop, toilet
- Non-toxic.
- Tough and flexible membrane

**Specification**
- Thickness 3mm and 4 mm
- Tensile Strength, Longitudinal 820N/5cm
- Transversal 600N/5cm

**ESTOP ROOTPROOF**

**ROOT RESISTANCE WATERPROOFING**

**Features**
- For roof, balconies, decks, green roof system.
- Protect against root penetration
- Environmentally friendly product

**Specification**
- Appearance liquid
- Colors black
- 0.5kg/m²/coat (25kg per pail)
- (depends on porosity of surface)

**ESTOFLEX DYMERIC**

**ACRYLIC WATERPROOF FOR EXCELLENT SUNLIGHT**

**Features**
- Long life waterproofing product (>20 years)
- Resistant to a wide temperature change from 50°C to 150°C
- Excellent heat, ozone and UV resistant

**Specification**
- Specific gravity: 1.15 ± 0.5
- Shore “A” Hardness: 60 ± 5
- Elongation at break: 300%
ESTOPROOF PVC
PVC WATERPROOFING MEMBRANE

Features
Suitable for waterproofing roofs and ballasted system
Root resistant according to DIN 4062
Easily welded using hot air, even several years after

Specification
> Elongation at break > 15 %
> Thickness 1.5 (+10/-5)%
> Colours Light Grey / Dark Grey
> Dimensions 2.1 x 20m (42 sqm/roll)

ESTOPROOF 30
HIGH PERFORMANCE MULTI PURPOSE DAMP PROOF MEMBRANE

Features
Suitable for damp proofing waterproofing security throughout the life time of a building

Specification
Made from a prime virgin base material to 300 micron

ESTOFOAM PU
1 PART PU FOAM GROUT

Features
Able to stop water leakage permanently and it is non toxic when cured

ESTOPATCH MP
CEMENTITIOUS POLYMER MODIFIED REPAIR COMPOUND

Features
Single component shrinkage compensated pre packed repair mortar that allow application thickness of 40mm vertical and 25 mm soffit without formwork

ESTOPATCH PVC
PVC WATERPROOFING MEMBRANE

Features
Suitable for basement waterproofing

ESTOFOAM PU
1 PART PU FOAM GROUT

Features
Provide good flexural and compressive strength performance that can be placed in thickness.

ESTOFOAM PU
1 PART PU FOAM GROUT

Features
Provide good flexural and compressive strength performance that can be placed in thickness.

ESTOBOND SBR, ESTOBOND AR, ESTOBOND PVA
BONDING AGENT

Features
Estobond AR: high performance acrylic emulsion bonding agent for cement and concrete
Estobond SBR: bonding agent styrene butadiene base
Estobond PVA: acrylic emulsion bonding agent

ESTOTILE BC
SINGLE COMPONENT POLYMER MODIFIED CEMENTITIOUS CERAMIC TILE BEDDING COMPOUND

Features
Applicable directly as a bedding compound for tile and fixing of ceramic tiles on floors and walls.

ESTOREX EP 10
FREE FLOW HIGH PERFORMANCE EPOXY RESIN

Features
Recommended for cracks and cavities repairs / injection in concrete structures with of 0.2 – 10.0 mm with no shrink, high strength and high adhesion to concrete and steel.

ESTOBOND EC
THIXOTROPIC EPOXY BONDING AND SEALANT

Features
Bonding prefabricated concrete segments to provide a structural and water resistant joint. also suitable as sealant for epoxy crack injection and a gap filling paste, grouting of starter bars, holding down bolts.

DENKA PRETASCON TYPE 1R
NON SHRINK MORTAR FOR GROUT (ENHANCED FLUIDITY)
MARINE PORT
NEW CONCRETE PAVEMENT

DENKA CSA#20
CHEMICAL PRE-STRESS, MITIGATES CRACKS IN GENERAL STRUCTURE

Features
Minimize the cracking caused by drying shrinkage (shrinkage compensation)

Applications
> Dry mix mortar to minimize cracking due to dry shrinkage
> Precast concrete member to improve bending toughness by chemical pre-stress with reinforced bar

ESTOFORM OB
OIL BASED MOULD RELEASING AGENT

Features
Blended with high efficient releasing properties specially design to provide quick, clean and easy stripping of moulds and formworks

Specification
Ensure stain-free concrete

ESTOFORM WB
WATER BASED MOULD RELEASING AGENT

Features
Water based curing compound for reduction of heat and surface temperatures due to sunlight

Specification
> Appearance liquid
> Colors black
> 0.5kg/m²/coat (25kg per pail) (depends on porosity of surface)

JOINTS

ESTOSEAL C200PF
COLD APPLIED, HIGH PERFORMANCE, PITCH FREE, POLYURETHANE PAVEMENT JOINT SEALANT

Features
Has outstanding resistance to UV weathering and commonly occurring chemicals

Specification
Excellent movements and flexibility tolerance

ESTOLIASTIC
HOT Poured RUBBER BITUMEN HORIZONTAL JOINT SEALANT

Features
Sealing movement and construction joints in concrete pavements and floor slab that possesses good adhesion to concrete and asphaltic materials.

Specification
An economical sealant for horizontal and inclined joints up to 1 in 20

ESTOSEAL T600
MULTI-COMPONENT, POLYSULPHIDE SEALANT

Features
Based on a liquid polysulphide polymer which when mixed with the hardener, cures to form a tough rubber like seal.

Specification
> Excellent adhesion to most common substrates
> High resistance to ageing reduces physical damage due to climatic extremes at 35°C

PROTECTIVE COATING

ESTOTECT MMA
HIGH PERFORMANCE METHACRYLATE PROTECTIVE AND DECORATIVE COATING

Features
Is a methacrylate, solvent based protective coating, with outstanding resistance to aggressive elements, UV light and rain

Specification
> Highly UV-resistant
> Excellent resistance to dirt pick up
CONCRETE REPAIR

**ESTOPATCH RSP**  
RAPID SETTING PATCH REPAIR CONCRETE FOR PAVEMENTS AND FLOOR

**Features**  
Fast setting repair concrete

**Specification**
> Rapid strength gain  
> High strength, abrasion, and weather resistance  
> Self – compacting – eliminates honey – combing and voids

**ESTOPATCH MP**  
CEMENTITIOUS POLYMER MODIFIED REPAIR COMPOUND

**Features**  
Single component shrinkage repair mortar application thickness of 40mm vertical and 25mm soffit without formwork.

**Specification**
> Shrinkage compensated, can be applied over large areas without cracking or de-bonding  
> Composition ensures excellent adhesion

**ESTOGROUT MP70**  
HIGH STRENGTH PUMPABLE AND FLOWABLE NON SHRINK GROUT

**Features**  
Non shrink and flowable grout

**Specification**
> Non shrink  
> Early strength development even at flow able consistency  
> Strength 28Days : 70 Mpa.

**ESTOGROUT UW**  
NON-SHRINK CEMENTITIOUS GROUT FOR UNDER WATER INSTALLATIONS

**Features**  
Grout under water

**Specification**
> No risk of significant ‘wash-out’ of cement phase when placed underwater  
> Displaces water effectively

**DENKA QUICK SET**  
SUPER QUICK HARDENING ADDITIVES

**Specification**
> Highways, railways, bridges, piers etc  
> Construction at low temperature  
> Concrete foundation construction, repair.  
> Wall, floor repairs

**ANODE PROTECTION**  
VECTOR GALVANIC ANODE

**GALVASHIELD CC/XP**  
EMBEDDED GALVANIC ANODE UNITS FOR CORROSION CONTROL

**Features**  
Range of embedded galvanic anode units utilize an innovative zinc anode core design surrounded by an enhanced formulated cement-based mortar

**Specification**
> Resistance to chemicals and bacterial growth
AIRPORT
NEW CONCRETE PAVEMENT

DENKA CSA#20
CHEMICAL PRE-STRESS, MITIGATES CRACKS IN GENERAL STRUCTURE

Features
Minimize the cracking caused by drying shrinkage (shrinkage compensation)

Applications
> Dry mix mortar to minimize cracking due to dry shrinkage
> Precast concrete member to improve bending toughness by chemical pre-stress with reinforced bar

JOINTS

ESTOSEAL C200PF
COLD APPLIED, HIGH PERFORMANCE, PITCH FREE, POLYURETHANE PAVEMENT JOINT SEALANT

Features
Use in movement joint or crack in a structure to prevent ingress of water
> Elevated structure

Applications
> Dry mix mortar to minimize cracking due to dry shrinkage
> Precast concrete member to improve bending toughness by chemical pre-stress with reinforced bar

ESTOSEAL E77
HOT POURED FUEL RESISTANT JOINT SEALANT

Features
Designed for sealing joints in concrete pavements, airfield aprons, cargo terminals, warehouse and parking areas

Specifications
> High resistance to weathering
> Resistance to petrol, oil or fuel occasional spillage
> Resist dirt and ingress or grit associated with trafficked pavements

ESTOPPER HYPATITE
ELASTOMERIC MEMBRANE SYSTEM FOR EXPANSION JOINT WATERPROOFING

Features
Use in movement joint or crack in a structure to prevent ingress of water

Applications
> Elevated structure

CONCRETE REPAIRS

ESTOPATCH RSP
RAPID SETTING PATCH REPAIR CONCRETE FOR PAVEMENTS AND FLOOR

Features
Fast setting repair concrete.

Specifications
> Rapid strength gain
> High strength, abrasion, and weather resistance

Applications
> Standard grout work
> Large volume/surface area foundations
> Long distance pumping

DENKA SUPERCEMENT SC30 CONCRETE
ULTRA-QUICK HARDENING CONCRETE

Features
Consist of three component material. Most suitable for emergency works where construction time is limited

Specifications
> 30 N/mm2 strength obtainable in 3 hours
> Achieved of good initial strength
> It can be applied to wet conditions

DENKA PRETASCON TYPE 1R
NON SHRINK MORTAR FOR GROUT (ENHANCED FLUIDITY)

Features
Premix non shrink dry mortar developed to meet customer needs.

Bonds well with existing concrete structures, preventing any gaps that lead to bleeding.

Excellent durability.

Applications
> Standard grout work
> Large volume/surface area foundations
> Long distance pumping

ESTOGROUT ADMIX
PLASTICIZED EXPANDING GROUT ADMIXTURE

Features
Ground anchor
> Bed grouting
> Infilling and jointing
**DENKA QUICK SET**

**SUPER QUICK HARDENING ADDITIVES**

**Features**
- 30 Mpa strength obtainable in 2 – 3 hours.
- Similar hardening performance even at low winter temperatures with S-5
- Reduce slump loss
- Increase cracking resistance

**Specification**
- Highways, railways, bridges, piers etc
- Construction at low temperature
- Concrete foundation construction, repair.
- Wall, floor repairs

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**GROUTING FOR COLD TEMPERATURE CONDITION**

**DENKA HIGH PRETASCON TYPE I**
ULTRA-FAST HARDENING NON-SHRINK GROUT (RAPID STRENGTH DEVELOPMENT)

**DENKA HIGH PRETASCON TYPE II**
ULTRA-FAST HARDENING NON-SHRINK GROUT (EXCELLENT CRACK RESISTANCE)

**DENKA HIGH PRETASCON TYPE H**
ULTRA-FAST HARDENING NON-SHRINK GROUT (RAPID STRENGTH DEVELOPMENT)

**Features**
- Suitable for use in cold climates or emergency works.
- Hardening in 20-30 min.
- For Shortening downtime
- Useable in subzero temperature, hardens even at -10C to result in quality grout

**Specification**
- Cold climate condition where grouting is required
- Maintenance and reinforcement works where construction time is limited

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**SOIL STABILISATION**

**DENKA ES**
RAPID HARDENING CEMENT-BASED SOIL STABILIZING MATERIAL

**Features**
- Adjustable gelling time of seconds ~ 10 mins

**Specification**
- Rapid hardening material with low alkalinity
- Needle-shaped crystals produced by hydration reactions

**DENKA ES-L**
RAPID HARDENING CEMENT-BASED SOIL STABILIZING MATERIAL

**Features**
- Adjustable gelling time of 10 mins ~ several hours

**Specification**
- Inorganic material composed of cement minerals
- Excellent permeability in combination with fine cement or super fine cement
TUNNEL + SOIL STABILIZATION

NEW CONCRETE TUNNEL

**DENKA NATMIC AFS**
- **Features**: Fast setting, early strength.
- **Applications**: Rock support in underground spaces (tunnels, headraces and mines), slope stabilization, TBM tunnel linings.

**DENKA SUBSHOT MORTAR S/N**
- **Features**: Fast setting, early strength.
- **Applications**: Tunnel linings and slope stabilization, stabilizing and strengthening in mining, tunnel repair, support for small cross section tunnels, slope stabilization, ground support after TBM excavation.

**DENKA NATMIC TYPE Z**
- **Features**: Quick setting time and high initial strength.
- **Applications**: Rock support in underground spaces (tunnels, headraces and mines), slope stabilization.

**DENKA PF MORTAR**
- **Features**: Quick hardening cementitious material.
- **Water/PF mortar ratio (%):** 20%
- **Applications**: Spraying after TBM drilling, repair of aqueduct tunnel, urgent repair accompanying an aqueduct tunnel disaster.

**ESTOSEAL 109**
- **Features**: Gun applied and moisture activated polyurethane sealant that will accept limited movement normally associated with the applications described.
- **Specification**: One part gun application, no mixing required, cures to a tough, flexible rubber.

**ESTOSEAL T600**
- **Features**: Based on a liquid polysulphide polymer which when mixed with the hardener, cures to form a tough rubber-like seal.
- **Specification**: Excellent adhesion to most common substrates, high resistance to ageing reduces physical damage due to climatic extremes at 35°C.

**ESTOPROOF 200**
- **Features**: Polyethylene finished cold applied self-adhesive waterproof sheet membrane.

**ESTOFLEX SM**
- **Features**: High performance polymerized instant set spray waterproofing membrane.

WATERPROOFING

**HISSAN TRADING INDONESIA**
**PROTECTIVE COATING**

**ESTOTECT MMA**
High Performance Methacrylate Protective and Decorative Coating

**Features**
- Is a methacrylate, solvent based protective coating, with outstanding resistance to aggressive elements, UV light and rain

**Specification**
- Highly UV-resistant
- Excellent resistance to dirt pick up

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**TUNNEL REPAIRS**

**ESTOFOM PU**
1 PART POLYURETHANE FOAM GROUT

**Features**
- Able to stop water leakage permanently and it is nontoxic when cured

**Specification**
- Deep penetration into very small cracks
- Foam increases in volume to fill cavities and voids

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**ROAD REPAIRS**

**ESTOREX EPS**
High Strength, Epoxy Resin Grout

**Features**
- Three component, solvent free epoxy resin grout design for grouting of gap width 10 to 75mm

**Specification**
- Excellent durability – high compressive strength, flexural and tensile strengths ensure a long working life
- Excellent in service performance – non-shrink capability ensures full surface to surface contact

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**DENKA QUICK SET**
Super Quick Hardening Additives

**Features**
- 30 Mpa strength obtainable in 2 – 3 hours.
- Similar hardening performance even at low winter temperatures with S-5
- Reduce slump loss
- Increase cracking resistance

**Specification**
- Highways, railways, bridges, piers etc
- Construction at low temperature
- Concrete foundation construction, repair
- Wall, floor repairs
POWER PLANT

NEW CONCRETE

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<tr>
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<th>Description</th>
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<tbody>
<tr>
<td>Denka Power CSA T-S/T-R</td>
<td>High performance, shrinkage reducing and compensating additive</td>
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<tr>
<td>Estomax MX100</td>
<td>Crystallization admixture waterproofing</td>
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<td>Estoform OB</td>
<td>Oil based mould releasing agent</td>
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<td>Estoform WB</td>
<td>Water based mould releasing agent</td>
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WATERPROOFING

<table>
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<tr>
<td>Estomax MX200</td>
<td>Crystallization cementitious waterproofing</td>
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<td>Estoflex GP</td>
<td>Flexible bitumen rubber membrane</td>
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<tr>
<td>Estomax MX100</td>
<td>Crystallization admixture waterproofing</td>
</tr>
<tr>
<td>Estosell T600</td>
<td>Multi-component, polysulphide sealant</td>
</tr>
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</table>

Features
One part cementitious crystallization waterproofing coating

Application
React with water to form a non-soluble crystalline matrix throughout the capillary voids in concrete

Features
1 component rubberized bitumen emulsion sealing that design for used as a damp proof membrane, vapor barrier, waterproof and protective coating

Application
> Fast drying & waterproof
> Permanent flexibility
> Applicable on fresh concrete
> Low water vapor permeable

Features
High quality polyvinylchloride compound that formulated to provide excellent flexibility and longevity characteristic

Specification
> 4 bulbs profile for excellent performance
> Suitable for potable water usage

Features
Based on a liquid polysulphide polymer which when mixed with the hardener, cures to form a tough rubber like seal.

Application
> Excellent adhesion to most common substrates
> High resistance to ageing reduces physical damage due to climatic extremes at 35°C
CONCRETE REPAIRS

ESTOBOND ACRYL
WATERPROOFING BONDING AGENT AND INTEGRAL MORTAR IMPROVER

Features
- Added to cementitious mortars & floors toppings to improve adhesion and strength

Specification
- Single component
- Can be used as curing membranes for Estopatch material

ESTOPATCH MP
CEMENTITIOUS POLYMER MODIFIED REPAIR COMPOUND

Features
- Single component shrinkage compensated pre-packed repair mortar that allow application thickness of 40mm vertical and 25mm soffit without formwork.

Specification
- Shrinkage compensated, can be applied over large areas without cracking or de-bonding
- Composition ensures excellent adhesion

DENKA PRETASCON TYPE 1R
NON SHRINK MORTAR FOR GROUT (ENHANCED FLUIDITY)

Features
- Premix non shrink dry mortar developed to meet customer needs.
- Bonds well with existing concrete structures, preventing any gaps that lead to bleeding.
- Excellent durability.

Application
- Standard grout work
- Large volume/surface area foundations
- Long distance pumping

DENKA PRETASCON TYPE M
NON SHRINK MORTAR FOR GROUT (USE FOR MASSIVE MORTAR)

Features
- Premix non shrink dry mortar developed as grouting material. It can be used only mix with water. It has high flowability and it makes non void grout
- High integration with base concrete is attempted. There is no bleeding.

Application
- Grouting under heavy machine. Foundation or steel structure, reinforcement for building.

PROTECTIVE COATING

ESTOTECT CT450
PITCH EXTENDED EPSOXY RESIN COATING

Features
- Two parts extended epoxy coating, which is able to provide a protection to concrete and metal structures against corrosion from aggressive environment

Specification
- Easily application can be dry brush or spray
- Chemical and abrasion resistant

ESTOTECT EN600
EPOXY NOVOLAC PROTECTIVE LINING

Features
- Two parts resin binder designed for use as a seamless chemical resistant topping up to a total thickness of 500 microns

Specification
- 100% solid, no solvent
- Excellent abrasion resistance
- Fast curing properties

ESTOTECT VE
GLASS FILLED VINYL ESTER COATING

Features
- High-build glass-flake reinforced vinyl ester coating suitable for immersion service of highly corrosive materials

Specification
- Excellent resistance against a broad spectrum of chemicals
- Anti-corrosion
NEW CONCRETE PAVEMENT

DENKA CSA#20
CHEMICAL PRE-STRESS, MITIGATES CRACKS IN GENERAL STRUCTURE

ESTOFORM OB
OIL BASED MOULD RELEASING AGENT

ESTOFORM WB
WATER BASED MOULD RELEASING AGENT

JOINTS

ESTOP HYDROCELL
CROSS LINKED, NON-ABSORBENT, CLOSED CELL, POLYETHYLENE JOINTS FILLER

Features
For forming of filling expansion joints between adjacent in-situ and precast components

Applications
- Non-extruding
- Low load transfer to joint edges
- Non-tainting and rot proof
- Bitumen free

ESTOSEAL C200PF
COLD APPLIED, HIGH PERFORMANCE, PITCH FREE, POLYURETHANE PAVEMENT JOINT SEALANT

Features
Has outstanding resistance to UV weathering and commonly occurring chemicals

Specification
Excellent movements and flexibility tolerance

ESTOCELL RBCF
RESIN BONDED CORK FILLER

ESTOBOND PCA
THIXOTROPIC EPOXY SEGMENTAL BRIDGE ADHESIVE

ESTOPPER CJ/EJ
CENTRALLY PLACED PVC WATERSTOP

CONCRETE REPAIR

ESTOP MICROCRETE
HIGH PERFORMANCE MICRO CONCRETE

Features
Controlled expansion in plastic stage with minimizing water demand and eliminate segregation under pumping pressure

Specification
High ultimate strength and low permeability provide maximum protection against CO2 and chloride

ESTOCRETE WR
HIGH STRENGTH SOLVENT FREE EPOXY RESIN PATCHING MORTAR

Features
Two parts epoxy resin mortar with excellent compressive strength

Specification
- Rapid hardening with no shrinkage
- Applicable on exceptionally wet condition and underwater applications

ESTOGROUT MP70
HIGH STRENGTH PUMPABLE AND FLOWABLE NON SHRINK GROUT

ESTOPATCH RSP
RAPID SETTING PATCH REPAIR CONCRETE FOR PAVEMENTS AND FLOOR

ESTOPATCH MP
CEMENTITIOUS POLYMER MODIFIED REPAIR COMPOUND

ESTOGROUT UW
NON-SHRINK CEMENTITIOUS GROUT FOR UNDER WATER INSTALLATIONS
**WATERPROOFING**

**ESTOKOTE GREY**
Polymer modified cementitious waterproofing slurry and protective coating

- Features: Two parts extended epoxy coating, which is able to provide protection to concrete and metal structures against corrosion from aggressive environment.

- Specification:
  - Easily application can be dry brush or spray.
  - Chemical and abrasion resistant.

**ESTOSEAL T600**
Multi-component polysulphide sealant

**ESTOTECT CT450**
Pitch extended epoxy resin coating

**ESTOKOTE FLEXI**
High performance polymer modified elastomeric waterproofing membrane system

- Features: Consists of three component material. Most suitable for emergency works where construction time is limited.

- Specification:
  - 30 N/mm² strength obtainable in 3 hours.
  - Achieved of good initial strength.
  - It can be applied to wet conditions.

**ESTOTECT E250**
Epoxy resin based, non-toxic, high build solvent free coating

- Features: High gloss nontoxic coating based on solvent free epoxy resins containing pigments and fine fillers.

- Specification:
  - Non-toxic, suitable for contact with food and potable water.
  - Smooth, glossy, easy to clean surfaces.

**ESTOP WATERPLUG**
Fast setting, hydraulic cementitious mortar

**ESTOP ADMIX RS**
Fast setting liquid

**DENKA SUPERCEMENT SC30**
Ultra-quick hardening concrete

**DENKA QUICK SET**
Super quick hardening additives
### ROAD

**NEW ROAD PAVEMENT**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>DENKA POWER CSA T-S/T-R</strong>&lt;br&gt;High Performance, Shrinkage Reducing and Compensating Additive</td>
<td>Features&lt;br&gt;Minimize the cracking caused by drying shrinkage (shrinkage compensation)&lt;br&gt;&lt;br&gt;Applications&lt;br&gt;› Dry mix mortar to minimize cracking due to dry shrinkage&lt;br&gt;› Precast concrete member to improve bending toughness by chemical pre-stress with reinforced bar</td>
</tr>
<tr>
<td><strong>DENKA COSMIC RD-M</strong>&lt;br&gt;Rock Support in Underground Spaces (Tunnels, Headraces, and Mines)</td>
<td>Features&lt;br&gt; › Quick setting time and high initial strength achieved through initial ettringite formation&lt;br&gt; › Development of high compressive strength and excellent long term durability.&lt;br&gt;&lt;br&gt;Application&lt;br&gt;› Rock support in underground spaces (tunnels, headraces and mines)&lt;br&gt;› Slope stabilization</td>
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### JOINTS

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<td><strong>ESTOCELL RBCF</strong>&lt;br&gt;Resin Bonded Cork Filler</td>
<td>Features&lt;br&gt;Recommended for use in immersed condition to any joint sealing compound by contaminating the joint faces&lt;br&gt;&lt;br&gt;Specification&lt;br&gt;› Simple and easy to handle and install&lt;br&gt;› Will not extrude under compression</td>
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<td><strong>ESTOP HYDROCELL</strong>&lt;br&gt;Cross Linked, Non-Absorbent, Closed Cell, Polyethylene Joints Filler</td>
<td>Features&lt;br&gt;For forming of filling expansion joints between adjacent in-situ and precast components&lt;br&gt;&lt;br&gt;Application&lt;br&gt;› Non-extruding&lt;br&gt;› Low load transfer to joint edges&lt;br&gt;› Non-tainting and rot proof&lt;br&gt;› Bitumen free</td>
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<td><strong>ESTOSEAL C200PF</strong>&lt;br&gt;Cold Applied, High Performance, Pitch Free, Polyurethane Pavement Joint Sealant</td>
<td>Features&lt;br&gt;Has outstanding resistance to UV weathering and commonly occurring chemicals&lt;br&gt;&lt;br&gt;Specification&lt;br&gt;Excellent movements and flexibility tolerance</td>
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<td><strong>ESTOLIASTIC</strong>&lt;br&gt;HOT Poured Rubber Bitumen Horizontal Joint Sealant</td>
<td>Features&lt;br&gt;Sealing movement and construction joints in concrete pavements and floor slab that possesses good adhesion to concrete and asphaltic materials.&lt;br&gt;&lt;br&gt;Specification&lt;br&gt;An economical sealant for horizontal and inclined joints up to 1 in 20</td>
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ROAD REPAIRS

DENKA SUPERCEMENT SC30 CONCRETE
ULTRA-QUICK HARDENING CONCRETE

Features
- Consist of three component material.
- Most suitable for emergency works where construction time is limited

Specification
- 30 N/mm² strength obtainable in 3 hours
- Achieved of good initial strength
- It can be applied to wet conditions

HIGH PRETASCON T-1
QUICK HARDENING NON-SHRINK MORTAR FOR GROUT

Features
- High flowability
- Quick hardening
- High integration with base concrete

Specification
- Machinery foundations
- Emergency repair works
- Bridge shoe

GROUTING FOR COLD TEMPERATURE CONDITION

DENKA HIGH PRETASCON TYPE I
ULTRA-FAST HARDENING NON-SHRINK GROUT (RAPID STRENGTH DEVELOPMENT)

DENKA HIGH PRETASCON TYPE II
ULTRA-FAST HARDENING NON-SHRINK GROUT (EXCELLENT CRACK RESISTANCE)

DENKA HIGH PRETASCON TYPE H
ULTRA-FAST HARDENING NON-SHRINK GROUT (RAPID STRENGTH DEVELOPMENT)

Features
- Suitable for use in cold climates or emergency works.
- Hardening in 20-30 min.
- For Shortening downtime
- Useable in subzero temperature, hardens even at -10°C to result in quality grout

Specification
- Cold climate condition where grouting is required
- Maintenance and reinforcement works where construction time is limited

DENKA SC 30

Features
- Fast setting patching material which suitable to be used for asphalt, concrete and semi-rigid pavement repair application.
- Coverage 0.37 m² at 5mm thick

Specification
- Repairing road, asphalt concrete and semi-rigid pavement.
DENKA CSA#20  
CHEMICAL PRE-STRESS, MITIGATES CRACKS IN GENERAL STRUCTURE

Features  
Minimize the cracking caused by drying shrinkage (shrinkage compensation)

Features  
> Dry mix mortar to minimize cracking due to dry shrinkage  
> Precast concrete member to improve bending toughness by chemical pre-stress with reinforced bar

NEW ROAD PAVEMENT

JOINTS

ESTOCCELL RBCF  
RESIN BONDED CORK FILLER

Features  
Recommended for use in immersed condition to any joint sealing compound by contaminating the joint faces

Specification  
> Simple and easy to handle and install  
> Will not extrude under compression

ESTOP HYDROCELL  
CROSS LINKED, NON-ABSORBENT, CLOSED CELL, POLYETHYLENE JOINTS FILLER

Features  
For forming of filling expansion joints between adjacent in-situ and precast components

Application  
> Non-extruding  
> Low load transfer to joint edges  
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ESTOSEAL C200PF  
COLD APPLIED, HIGH PERFORMANCE, PITCH FREE, POLYURETHANE PAVEMENT JOINT SEALANT

Features  
Has outstanding resistance to UV weathering and commonly occurring chemicals

Specification  
Excellent movements and flexibility tolerance

ESTOBOND PCA (PRECAST)  
THIXOTROPIC EPOXY SEGMENTAL BRIDGE ADHESIVE

Features  
2-component solvent free epoxy resin system that specially formulated to meet the requirements for bonding prefabricated concrete bridge segments

Specification  
> High strength, cures at low temperature to give high physical properties  
> Non-sag, easy to apply, non-slump product

ESTOLIASTIC  
HOT Poured RUBBER BITUMEN HORIZONTAL JOINT SEALANT
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<td><strong>ESTOPLATE HIGH STRENGTH COMPOSITE LAMINATE STRUCTURAL STRENGTHENING SYSTEM FOR CONCRETE STRUCTURES</strong></td>
<td>Carbon fiber laminates strips, composite material for reinforcement of new and the strengthening of existing structures</td>
<td>Will not corrode, Ultra high tensile strength modulus</td>
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**DENKA PRETASCON TYPE 1R NON SHRINK MORTAR FOR GROUT (ENHANCED FLUIDITY)**

**DENKA QUICK SET SUPER QUICK HARDENING ADDITIVES**

**HISSAN TRADING INDONESIA PRODUCT CATALOG 21**

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**DENKA PRETASCON TYPE 1R NON SHRINK MORTAR FOR GROUT (ENHANCED FLUIDITY)**

**DENKA QUICK SET SUPER QUICK HARDENING ADDITIVES**
Notice

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