

CATALOG



CONCRETE ADDITIVE

Product Data Sheet



DaleaPlasztiz 021A

Superplasticizer

DaleaPlasztiz 021A is a ready-to-use aqueous solution of a modified naphthalene sulfonate. DaleaPlasztiz 021A is a high range water reducer, commonly referred to as a superplasticiser. It is a low viscosity liquid, which has been formulated by the manufacturer for use as received. DaleaPlasztiz 021A contains no added chloride. DaleaPlasztiz 021A meets ASTM C494/C494M Type F water-reducing, high-range admixture

One litre of DaleaPlasztiz 021A weighs approximately $1.21\text{kg} \pm 0.02\text{kg}$.

DISPERSION

DaleaPlasztiz 021A is a superior dispersing admixture having a marked capacity to disperse the cement agglomerates normally found in a cement-water suspension. The capability of DaleaPlasztiz 021A, in this respect, exceeds that of normal water-reducing admixtures.

PRODUCT ADVANTAGES

- Compatible with a wide range of cements.
- Produce high slump flowable concrete at no loss in strengths
- Produce low water-cement ratio concrete and therefore, high strengths.
- Aids in rapid discharge of concrete from truck mixers thereby reducing on-the-job time and improving mixer utilisation

USES

DaleaPlaztiz 021A produces concrete with extremely workable characteristics referred to as high slump, flowing concrete. DaleaPlaztiz 021A also allows concrete to be produced with very low water-cement ratios at low or normal slumps.

DaleaPlaztiz 021A is ideal for use in prestress, precast, bridge deck or any concrete where it is desired to keep the water-cement ratio to a minimum and still achieve the degree of workability necessary to provide easy placement and consolidation. DaleaPlaztiz 021A will also fluidise concrete, making it ideal for tremie concreting or other applications where high slumps are desired.

ADDITION RATES

Addition rates of DaleaPlaztiz 021A can vary with type of application, but will normally range from 400 to 2,000mL / 100kg of cementitious material. In most instances the addition of 750 to 1,000mL / 100kg of cementitious material will be sufficient. At a given water-cement ratio, the slump required for placement can be controlled by varying the addition rate. Should job site conditions required using more than recommended addition rates, please consult your local DNM representative.

PACKAGING

DaleaPlaztiz 021A is available in bulk and in 205L drums. DaleaPlaztiz 021A contains no flammable ingredients. It will begin to freeze at approximately 0°C, but will return to full strength after thawing and agitation. In storage and for proper dispensing, DaleaPlaztiz 021A should be maintained at temperatures above 0°C.

HEALTH AND SAFETY

See DaleaPlaztiz 021A Material Safety Data Sheet or consult PT Dalea Nusantara Mandiri.

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DaleaRetard 011A

Water-reducing initial set retarder

Daratard® P26 admixture is a ready-to-use brown solution of hydroxylated organic compounds. One litre of Daratard P26 weighs approximately 1.11 kg \pm 0.02 kg.

Daratard P26 is formulated to comply with the following chemical admixture specifications for concrete: ASTM C 494, Type B and D; BS 5075: Part 1.

I APPLICATION

Daratard P26 retards the initial and final set of concrete. At the usual addition rate of 300mL / 100kg cementitious material it will extend the initial setting time of portland cement concrete by 2 to 3 hours at 21°C. Daratard P26 is used wherever a delay in setting time is required to insure sufficient delivery, placement, vibration or compaction time, such as in:

- Hot weather concreting
- Transit mix concrete
- Prestressed concrete

Daratard P26 is also used in special applications, as in bridge decks where it extends plastic characteristics of the concrete until progressive deflection resulting from increasing loads is completed.

I WATER-REDUCING PROPERTIES

Along with set retardation, Daratard P26 provides water reduction (typically 8 to 12%) in a concrete mix. This water-reducing action of Daratard P26 produces greater plasticity and workability in the fresh concrete and the strength and permeability of the hardened concrete are measurably improved.

Daratard P26 is designed for use on jobs where high temperatures make extended setting times desirable. It is recommended when the primary purpose is to delay and control the setting time of concrete.

I COMPATIBILITY WITH OTHER ADMIXTURES

Daratard P26 is compatible in concrete with all commercial air- entraining admixtures, such as Daravair® or Darex® AEA®. Due to the slight air-entraining properties of Daratard P26 itself, the addition rate of Daravair may be reduced by about 25%. By combining the separate effects of air entrainment and dispersion, the water requirement of concrete may be reduced by up to 15%. Each admixture should be added separately.

I ADDITION RATES

Addition rates for Daratard P26 will typically range from 200 to 400mL / 100kg of cementitious material. The amount to be used will depend on the degree of retardation required under job conditions. Longer setting times or higher temperatures will require higher addition rates. Conversely, the addition rate will be lower for shorter extensions of time.

I PACKAGING

Daratard P26 is available in bulk and 205L drums. It contains no flammable ingredients. Daratard P26 will freeze at about -2°C, but will return to full strength after thawing and thorough agitation.

I HEALTH AND SAFETY

See Daratard P26 Material Safety Data Sheet or consult GCP Applied Technologies.

CONCRETE ADDITIVE

Product Data Sheet



DaleaScrete 031A

Alkali-free, liquid,
high-performance
set accelerator for
shotcrete

DaleaScrete 031A is a high-performance, alkali-free set accelerator specifically formulated to provide high early strength at low dosage rates, and improve productivity by shortening the time of setting without compromising long-term strength and durability.

DaleaScrete 031A is an easy flow, ready-to-use, non-alkali and is formulated to comply with the requirements ASTM C 1141/C 1141M, Types 1/11, Grade 9, Class A.

USES

DaleaScrete 031A is used in all shotcrete applications where high early strength is required and **especially in the following applications:**

- Temporary and permanent rock support in tunnels
- Underground rock support in mining
- Slope stabilisation

PRODUCT ADVANTAGES

- Efficient dosage rate - highly active formulation for lowest dosages
- Reduced excavation downtime - increased adhesion and faster setting
- Improved strength - increased early age strength development without compromising later age strength
- Reduced cycle times - quicker setting action and increased layer thickness for overhead work
- Minimum material waste - lower rebound and dust • Safer and healthier to handle - non-alkaline formulation
- Robust and easy to formulate - liquid product, easily measured and dosed

ADDITION RATES

The dosage of DaleaScrete 031A can vary based on the type of application, mix design, cement type and content, water-to-cementitious materials ratio, temperature of the concrete, ambient temperature and temperature of the substrate on which the concrete is to be applied.

The dosage of DaleaScrete 031A normally ranges between 4% and 8* by the total weight of cementitious materials. Overdosing (>10%) may result in decreased final strength. Should conditions require using more than the recommended addition rates, please consult your local NM representative.

DNM recommends that trials be performed before use to assess and optimise dosage rates and shotcrete performance, Predetermined and tested re-entry requirements arlio be measured and nominated. If further assistance is required please consult your local NM representative.

SHELF LIFE

DaleaScrete 031A is added at the nozzle. DaleaScrete 031A is a suspension and therefore not all types of dosing pumps will work properly. Advice on dosing pumps is availa-t-from DNM on request.

PACKAGING

DaleaScrete 031A is available in 205L polyethylene drums and 1,000L totes. DaleaScrete 031A is also available in bulk, delivered by metred tank trucks on request.

TEMPERATURE

DaleaScrete 031A should be stored at a temperature range of 5°C to 35°C. It is recommended that DaleaScrete 031A be kept out of direct sunlight.

I CONDITIONS

DaleaScrete 031A must be kept in closed plastic containers or closed tanks made of polyethylene or PVC. Do not store in steel containers as the pH can cause corrosion which might affect the performance of the product. Containers must be tightly closed every day to avoid contact with air which can cause a chemical reaction (skin building on top and lumps which cause problems with dosing pumps).

After prolonged storage DaleaScrete 031A should be vigorously recirculated in the tanks by means of stirring apparatus or through recirculation before use. It can have a settlement that may not be visually detectable.

I COMPATIBILITY

DaleaScrete 031A is compatible with all DaleaScrete shotcrete admixtures. NM recommends that a suitable superplasticiser and slump life controlling admixture be incorporated into the shotcrete mix to achieve extended working life and maintain low water-to-cementitious materials ratio. DaleaScrete WR high range water-reducing and DaleaScrete HC hydration control admixtures are recommended for this purpose.

Pretesting of the shotcrete mix should be performed before use and as conditions and materials change in order to ensure compatibility with other admixtures.

For use with other shotcrete admixtures systems, we recommend you to contact PT Dalea Nusantara Mandiri for further advice.

CONCRETE ADDITIVE

Product Data Sheet



DaleaFume 021

Densified silica fume for cast and sprayed concrete

DaleaFume 201 is a -quality silica fume powder for high performance concretes. It changes the porous structure of the concrete making it denser and more resistant to any type of external influence.

DaleaFume 201 is a pozzolan which reacts chemically within the concrete to increase the amount of calcium silicate hydrate gel formed, thus the strength and impermeability of the concrete.

IFIELDS OF APPLICATION

- Wet-mix sprayed concrete applications
- Pre-cast concrete
- Cast in-situ concrete
- High strength concrete
- Concrete with low cement content
- Underwater concrete or marine structures
- and any construction that requires the protection provided by impermeable concrete

TECHNICAL DATA

- Form : Powder
- Appearance : Grey Powder
- S.G. : 0.55 -0.7 kg/l
- Chloride content : <0.1%
- Shelf Life : 2 months from date of manufacture when stored in undamaged, unopened packaging.
- Packaging : generally supplied in 20 kg or 30 kg bags, bulk bags or bulk delivery

STORAGES

DaleFume 201 must stored dry and in tightly closed original bags, in a cool dry place and protected against physical damage.

SAFETY PRECAUTIONS

Avoid eye and skin contact and wear rubber gloves and goggles. If contact occurs, rinse with plenty of water. In case of eye contact seek medical advice.

For further information, refer to the Material Safety Data Sheet or contact your local PT. Dalea Nusantara Mandiri representative.

TECHNICAL SUPPORT

PT. Dalea Nusantara Mandiri can provide experiences and know-how accumulated in the lab. and the field for years. If a customer does not have proper equipment or test solutions for DaleaFume 201, PT. Dalea Nusantara Mandiri, offers to help our customers to maintain the best producing condition and the best product quality.

CONCRETE ADDITIVE

Product Data Sheet



DALEA GROUT 251

Premixed, High Strength and Flowable Microconcrete for Marine structure

Dalea Grout 251 is cementitious non-shrink grout provides high flexural and compressive strength performance. It is a prepacked and ready to use product and only requires addition of water to produce a flowable non shrink grout for especially used for marine structures and repairs.

Dalea Grout 251 is formulated from a blend of Portland Cement, graded fillers, expanding agent and chemical additives which impart controlled expansion in the plastic and hardening stages while using minimum water in the mix. The graded silica sand ensures consistent flow and workability. The low water requirement contributes fast strength gain and long-term durability.

USES

Dalea Grout 251 is used for grout and repair of new structures, and marine purpose grouting works. It is recommended for grouting of base plate, strengthening and repairs of structural concrete, such as columns, beams, decks etc.

I ADVANTAGES

- Prepack material, ready to use only with addition of water
- High early strength and high strength for long term durability
- Flowable, easy to apply and allow self compaction.
- Low permeability provide maximum protection against CO₂ and chloride, suitable for marine structure
- Non shrink, provide expansion at plastic stage
- Low alkali content minimises risk of alkali-silica reaction

I STANDARDS COMPLIANCE

- BS 1881; part 118-119
- ASTM C1202 : 1997
- ASTM C940 : 2016

I PHYSICAL PROPERTIES

Test Method for Fresh wet density: Water-powder ratio at 0.16 (28°C)

TEST METHOD	TYPICAL RESULT
COMPRESSIVE STRENGTH ASTM C-109	> N/MM ² @ 12HRS > 36 N/MM ² @ 1 D > 58 N/MM ² @ 7 D >70 N/MM ² @ 28 D
FLEXURAL STRENGTH ASTM C-348	10 N/ MM ² @ 28 D
EXPANSION ASTM C940:1998	0.5 – 1.5 %
TIME OF EXPANSION	START : 30 MIN FINISH : 2 HOURS
FRESH WET DENSITY	2150 KG/M ³
RAPID CHLORIDE PERMEABILITY (COLOUMBS)	1.2 MM/ MM

I APPLICATION INSTRUCTIONS PREPARATION

The unrestrained surface area of the repair must be kept to a minimum. The formwork should include drainage outlets for pre-soaking and, if beneath a soft, provision for air venting. Provision must also be made for suitable access points pour or pump the mixed micro-concrete into place. Substrate shall be free from any contaminated material, loose particle, oil, paint, grease etc. Where breaking out is not required, roughen the surface and remove any laitance by light scabbling or grit-blasting.

Expose fully corroded steel in the repair area and remove all loose scale and corrosion deposits. Steel should be cleaned to a bright condition paying particular attention to the back of exposed steel bars. Grit-blasting is recommended for this process.

Where corrosion has occurred due to the presence of chlorides, the steel should be high-pressure washed with the clean water immediately after grit-blasting to remove corrosion products form pits and imperfections within its surface.

I SUBSTRATE PRIMING

Substrates should be saturated by filling the prepared formwork with clean water. Prior to the application of Dalea Grout 251 any excess water should be removed.

I MIXING

Measure 4 – 4.25 litres clean water and pour three-quarters into the drum. With the machine in operation, add one full 25 kg bag of Dalea Grout 251 and mix for one minute before adding the rest of the water. Mix for a further 2 to 3 minutes until a smooth even consistency is obtained. The quantities mixed may be scaled up as required. When the drill and paddle mix method is used, the complete 2.4 – 2.8 litres of water should be placed in the mixing drum. While the paddle rotation, add one full 25 kg bag of Dalea Grout 251 and mix for 2 to 3 minutes until a smooth even consistency is achieved.

I PACKING

Dalea Grout 251 is Packaged in 25 kg bags.

I YIELD

Dalea Grout 251
1 bag 25 kgs ÷ yield : 13.7 litres
72 bags @ 25 kg ÷ yield : 1 m³
(actual yields depending on water added)

I LIMITATION

Dalea Grout 251 is not suitable to be used for unrestrained grouting.

I CLEANING

Use clean water to remove remaining grout from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed mechanically.

I TECHNICAL SUPPORT

Dalea offers high performance, high quality of products for both new and existing concrete surfaces. The company provides a technical support package to specifiers, end-users and contractors, as well as on-site technical assistance.

I STORAGE

Dalea Grout 251 should be stored on pallets in dry and shaded conditions where under such conditions, the product will have a shelf life of 12 months.

I PRECAUTION

Dalea Grout 251 should not be in contact with sensitive skin and eyes. Avoid inhalation of dust during mixing. Wear gloves, goggles and dust mask.

I ADDITIONAL INFORMATION

Dalea manufactures and sells wide range of construction chemical products, such as waterstops, waterproofing products, grouts, anchors, specialized flooring products. In addition, a wide range of products formulated for repair and refurbishment of spalled concrete are available

CEMENT ADDITIVE

Product Data Sheet



DaleaGrind 061 OPT

Cement Additive for Strength Enhancement

DaleaGrind 061 OPT is a chemical additive used as a cement constituent (European standard EN 197, point 5,5) to improve the manufacture and properties of cements. It is an aqueous solution of selected and patented alkanolamines to suit requirements of the cement manufacturer.

RECOMMENDED ADDITION RATE

The addition rate of DaleaGrind 061 OPT is typically in the range of 200 to 600 g/t of treated cement. However, the optimum addition rate of DaleaGrind 061 OPT depends on the characteristics of the material and the grinding circuit and normally assessed through industrial tests. DNM personnel are available for assistance.

Deviation from the optimum cannot guarantee the expected results and could have an impact on cement characteristics.

Overdosing can lead to a reduction in mill retention time and a possible loss of grinding efficiency, together with "mill flushing" and excessive flowability.

PRODUCT ADVANTAGES

- DaleaGrind 061 OPT is also a grinding aid for cement, which reduces the tendency of reagglomeration of the fine particles, formed during the comminution process.
- DaleaGrind 061 OPT permits improvements to the dry flowability of the finished cement, the efficiency of the mill and separator, and thus increases the production rate with a corresponding reduction in grinding energy consumption.
- Cement produced with DaleaGrind 061 OPT 1 has a lower pack-set tendency and hence can provide advantages during loading and unloading operations.
- DaleaGrind 061 OPT improves the PSD and activates the hydration kinetics, thus further increases the early strength of the treated cement

PHYSICAL PROPERTIES

Appearance	: Dark Brown Liquid
pH	: 9.5 – 11.5
Specific Gravity @ 20 °C	: 1.065 – 1.085

BENEFITS

DaleaGrind 061 OPT permits increases in compressive strengths at the initial and medium to later stages. The resulting enhanced performance can be used to meet specific market needs or, if desired, to reduce cement fineness and lower unit production costs, or to reduce the clinker factor, by using increased levels of supplementary cementitious material, while retaining the previous cement performance characteristics.

TYPICAL APPLICATIONS

DaleaGrind 061 OPT can be used for the grinding of most cements in open and closed circuit systems including vertical roller mills and roll presses.

Mill applications are:

- Portland & Portland blended cements
- Portland limestone cements

HOW TO USE

DaleaGrind 061 OPT should be added on to the feed belt or injected pure into the mill. For an accurate proportioning of DaleaGrind 061 OPT, a volumetric metering pump is suitable. Should conditions require using more than recommended addition rates, please consult your local DNM representative.

PHYSICAL PROPERTIES

DaleaGrind 061 OPT is supplied in 205L drums, in 1,000L plastic containers or bulk. Shelf life is at least 12 months if stored in manufacturer's containers.

PRECAUTION FOR STORAGE & HANDLING

DaleaGrind 061 OPT does not require particular precaution for storage. However, it should be protected from freezing. For tanks and containers placed outside a heating system or a re-mixing device is recommended. It is also better to insulate exposed pipelines.

DaleaGrind 061 OPT does not require particular precaution for health and safety. For further advice, please read the Material Safety Data Sheet.

Accidental release or spillage to be absorbed with an inert, noncombustible material, such as sand or sawdust. Tanks and containers can be cleaned with water.

CEMENT ADDITIVE

Product Data Sheet



DaleaGrind 061 TV

Strength Enhancer Grinding Aid for Vertical Roller Mills

DaleaGrind 061 TV is a chemical additive used as a cement constituent to improve the manufacture and the properties of cement. DaleaGrind 061 TV allows to optimize cement grinding in Vertical Roller Mills (VRM), to control vibrations and to reduce water addition, enabling the production of cements with reduced pre-hydration and improved performance.

DaleaGrind 061 TV is an aqueous solution of selected raw materials to suit the requirements of the cement manufacture.

RECOMMENDED ADDITION RATE

The addition rate of DaleaGrind 061 TV is typically in the range of 200 to 450 g/t of treated cement. However, the optimum addition rate depends on the characteristics of the material and the grinding circuit and normally assessed through industrial tests. DNM personnel are available for assistance.

Deviation from the optimum cannot guarantee the expected results and could have an impact on cement characteristics.

Overdosing can lead to a reduction in mill retention time and a possible loss of grinding efficiency, together with "mill flushing" and excessive flowability.

PRODUCT ADVANTAGES

- DaleaGrind 061 TV is also a grinding aid for cement, which reduces the tendency of re- agglomeration of the fine particles, formed during the comminution process.
- DaleaGrind 061 TV permits improvements to the dry flowability of the finished cement, the efficiency of the mill and separator, and thus increases the production rate with a corresponding reduction in grinding energy consumption.
- Cement produced with DaleaGrind 061 TV has a lower pack-set tendency and hence can provide advantages during loading and unloading operations.
- DaleaGrind 061 TV improves the PSD and activates the hydration kinetics, thus further increases the early strength of the treated cement

PHYSICAL PROPERTIES

Appearance	: Dark Brown Liquid
pH	: 9.5 – 11.5
Specific Gravity @ 20 °C	: 1.065 – 1.085
% Total Solids	: 53.5 – 57.5

BENEFITS

DaleaGrind 061 TV permits increases in compressive strengths at the initial and medium to later stages. The resulting enhanced performance can be used to meet specific market needs or, if desired, to reduce cement fineness and lower unit production costs, or to reduce the clinker factor, by using increased levels of supplementary cementitious material, while retaining the previous cement performance characteristics.

TYPICAL APPLICATIONS

DaleaGrind 061 TV can be used for the grinding of most cements in particular with vertical roller mills and roll presses.

Mill applications are:

- Portland & Portland blended cements
- Portland limestone cements

HOW TO USE

DaleaGrind 061 TV should be added on to the feed belt or injected pure into the mill. For an accurate proportioning, a volumetric metering pump is suitable. Should conditions require using more than recommended addition rates, please consult your local DNM representative.

PACKAGING

DaleaGrind 061 TV is supplied in 205L drums, in 1,000L plastic containers or bulk. Shelf life is at least 12 months if stored in manufacturer's containers.

PRECAUTION FOR STORAGE & HANDLING

DaleaGrind 061 TV does not require particular precaution for storage. However, it should be protected from freezing. For tanks and containers placed outside a heating system or a re-mixing device is recommended. It is also better to insulate exposed pipelines.

DaleaGrind 061 TV does not require particular precaution for health and safety. For further advice, please read the Material Safety Data Sheet.

Accidental release or spillage to be absorbed with an inert, noncombustible material, such as sand or sawdust. Tanks and containers can be cleaned with water.

Contact us

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