OPTIMUS®

Water-based heat shield / insulation paint
HYDRO THERMO Technical data

HYDRO THERMO is a water-based heat-shielding and heat-insulating paint that is friendly to the global environment. The base resin contains acrylic and silicone, and has excellent weather resistance. The special pigment formulation efficiently reflects the infrared region (380nm to 2,500nm) contained in sunlight and suppresses the rise in surface temperature. In addition, special hollow plastic beads are mixed in the paint, so you can expect a heat insulating effect. Since it has a hydrophilic function, it can exert a self-cleaning effect with rainwater, so it is hard to get dirty and the heat shielding effect is maintained.

Use	1．Exterior walls of condominiums and single-family homes 2．Outer walls of public properties such as schools 3．Roofs of gymnasiums, factories, etc.

Features	1．Maintaining heat insulation and heat insulation effect by self-cleaning effect By blending colloidal silica, hydrophilic function (self-cleaning effect) is exhibited, and it is possible to maintain heat insulation / heat insulation effect and low pollution for a long period of time. 2. Outstanding weather resistance and durability It contains acrylic and silicone resins and has excellent weather resistance and durability. 3. Safety As it is a water-based paint, it is environmentally friendly and there is no need to worry about fire. 4. Workanility / drying Both the primer and topcoat are water-based one-component types with little odor and excellent workability and dryness.

Standard coating amount

● Metal roof specifications

Process	Product name	Coating amount (kg/㎡)	Drying time (20℃)
Primer layer	Metal primer	0.08~0.1	30mins~1hour
Filler	Insulation Filler	0.6	30mins~1hour
1st topcoat	HYDRO THERMO	0．20	More than 2 hours
2nd topcoat	HYDRO THERMO	0．20	More than 2 hours

● Mortar / concrete / ceramic siding board painting specifications

Process	Product name	Coating amount (kg/㎡)	Drying time (20℃)
Primer layer	C3 primer	0.15~0.2	30mins~1hour
Filler	Insulation Filler	0.6	30mins~1hour
1st topcoat	HYDRO THERMO	０．２０	More than 2 hours
2nd topcoat	HYDRO THERMO	０．２０	More than 2 hours

○ Paint properties

Test items	Standard value	Test standard
Exterior	Colored paste	Visually
Viscosity	１０±５Pa・S	BH type viscometer (at 25 ° C)
Viscosity ratio (thixotropy)	1.6±0.2	BH type viscometer 10 rpm / 20 rpm viscosity ratio
Density	1.10±0.05	Relative density cup method
Heating residue	58±3%	１０７℃　1 hour

○ Coating film performance

Test items	Result	Test standard
Hardness	ＨＢ	Pencil hardness
Tensile strength (N/mm²)	１．６９	
Growth rate （%）	７５	
Adhesion strength (N/mm²)	３．４ (Standard state)	More than ０．５ According to ＪＩＳ　Ａ　６９０９
	２．０ (Soaked in water)	More than ０．３ According to ＪＩＳ　Ａ　６９０９
Permeability A method	０．０	Less than １０．０ According to ＪＩＳ　Ａ　６９０９
Cold stability	No abnormality	There is no composition separation and agglomeration.
Alkali resistance A method	No abnormality	Soaked in saturated aqueous calcium hydroxide solution for 7 days
Acid resistance	No abnormality	Immerse in 0.5% sulfuric acid aqueous solution for 7 days
Weight drop resistance	No abnormality	Drop W2-500 (mass 530 g) from a height of 30 cm and visually observe for peeling or cracking of the coating film.
Accelerated weather resistance	No abnormality	Super xenon irradiation time 2,500 hours (Equivalent to 10 years of outdoor exposure)
		Chalking: Not occurring
		No cracks or swelling