FUJIFILM

PRESCALE

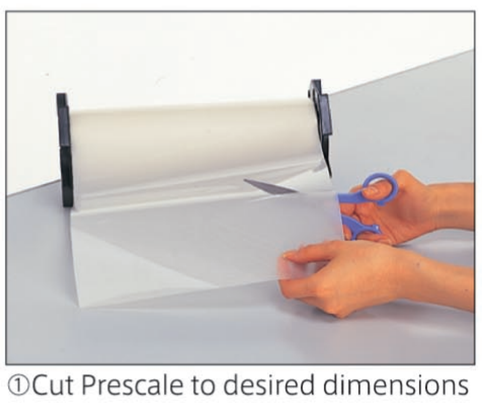
Red patches will appear on the film wherever
contact pressure is applied and the color density indicated
will vary according to the differing contact pressure levels

Prescale film can precisely measure pressure, pressure distribution, and pressure balance.
Fuji PhotoFilm's advanced technology in color film manufacturing enables Fuji to produce extremely thin and stable Prescale films of less than .2mm.(.001in)
Red patches will appear on the film when pressure is applied and the color density changes according to the various pressure levels.
There are Six types of Prescale available to fulfil your varying pressure range.
(0.2～300 MPa)(28 psi～43,500 psi)

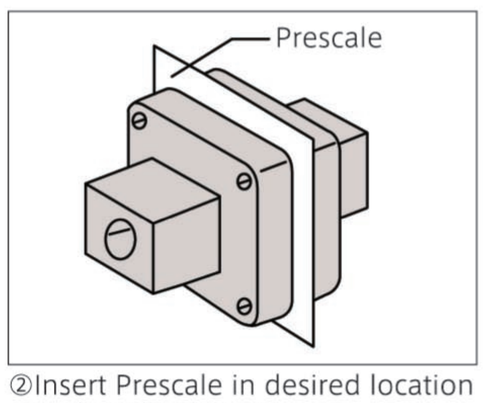
How to use

Prescale is the only material in the world able to measure pressure!

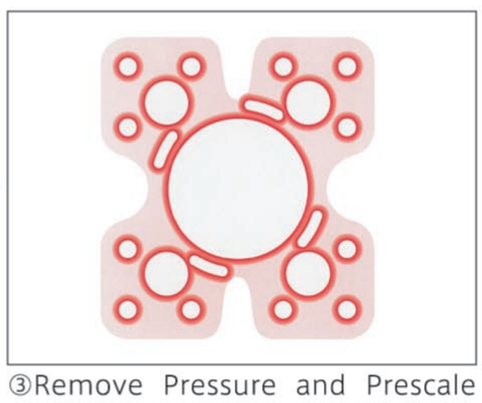
Microcapsules are broken and react with a color developing agent when pressure is applied.



①Cut Prescale to desired dimensions



②Insert Prescale in desired location and apply pressure



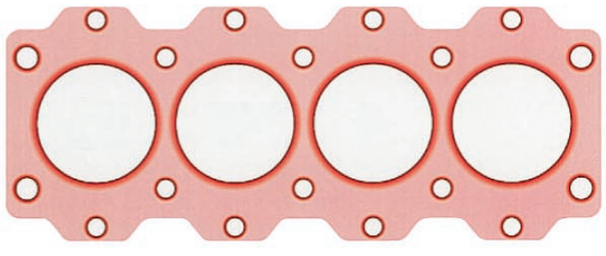
③Remove Pressure and Prescale and you can now See and check the pressure and it's distribution

●Two-sheet Type (Ultra super-low pressure: LLLW～Medium pressure: MW)
Cut two Prescale films appropriately. (A-film in black poly sack and C-film in blue poly sack) Face the rough surfaces of each film and insert the films where you want to measure pressure. Apply pressure. Red patches appear on the film and the color density changes according to pressure level. Take out the C-film, see and check the pressure distribution. For further precise pressure values, please use the pressure analyzing system.

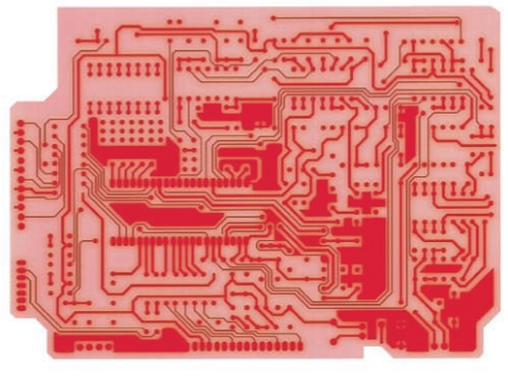
●Mono-sheet type (Medium pressure: MS～Super high pressure: HHS)
Cut Prescale film in black poly sack appropriately.
Insert the film where you want to measure pressure.
Apply pressure. Red patches appear on the film and the color density changes according to pressure level.
Take out the film, see and check the pressure distribution.
For further precise pressure values, please use the pressure analyzing system.

Applications

●Bolt tightening pressure:
Engines, gearboxes, valves, hydraulic cylinders



●IC & LCD pressure:
LCD monitor displays,
precision substrates



Technology

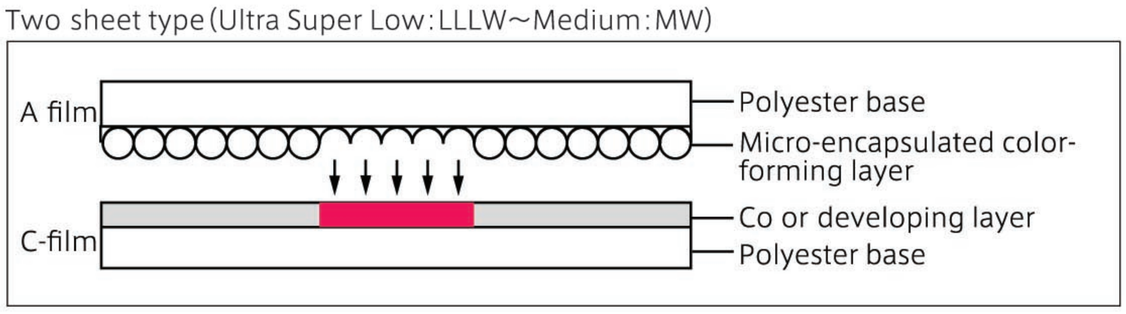
●Structure

There are two types of Prescale. Mono-sheet type is composed of a polyester base on which the color-developing material is coated, with the micro-encapsulated color-forming material layered on top.
Two-sheet type is composed of two polyester bases. One is coated with a layer of micro-encapsulated color forming material and the other with a layer of the color-developing material. Use two films facing the coated sides each other.

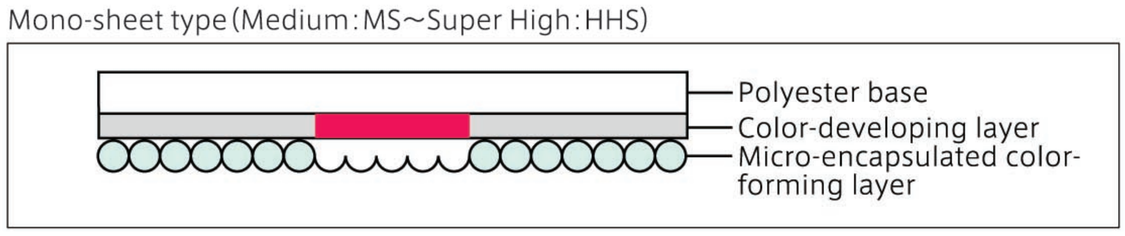
●How it works

When pressure is applied, the microcapsules are broken and the color-forming material reacts with the color-developing material. Red patches appear on the film.

Two sheet type (Ultra Super Low : LLLW～Medium : MW)



Mono-sheet type (Medium : MS～Super High : HHS)



Line Up

Six types of Prescale are supplied according to pressure level. Select appropriate Prescale.

Product (Code)	Pressure range [MPa] 1MPa≒10.2kgf/cm² / Pressure range [psi] 1psi≒6895Pa	Product size W(mm)×L(m)	Type
	0.2 (29) – 0.5 (73) – 0.6 (87) – 2.5 (363) – 10 (1,450) – 50 (7,250) – 130 (18,850) – 300 (43,500)		
Ultra Super Low Pressure (LLLW)		270×5	Two-sheet type
Super Low Pressure (LLW)		270×6	Two-sheet type
Low Pressure (LW)		270×12	Two-sheet type
Medium Pressure (MW)		270×12	Two-sheet type
Medium Pressure (MS)		270×12	Mono-sheet type
High Pressure (HS)		270×12	Mono-sheet type
Super High Pressure (HHS)		270×12	Mono-sheet type

Notes: W in the product codes indicates two-sheet type, S indicates mono-sheet type

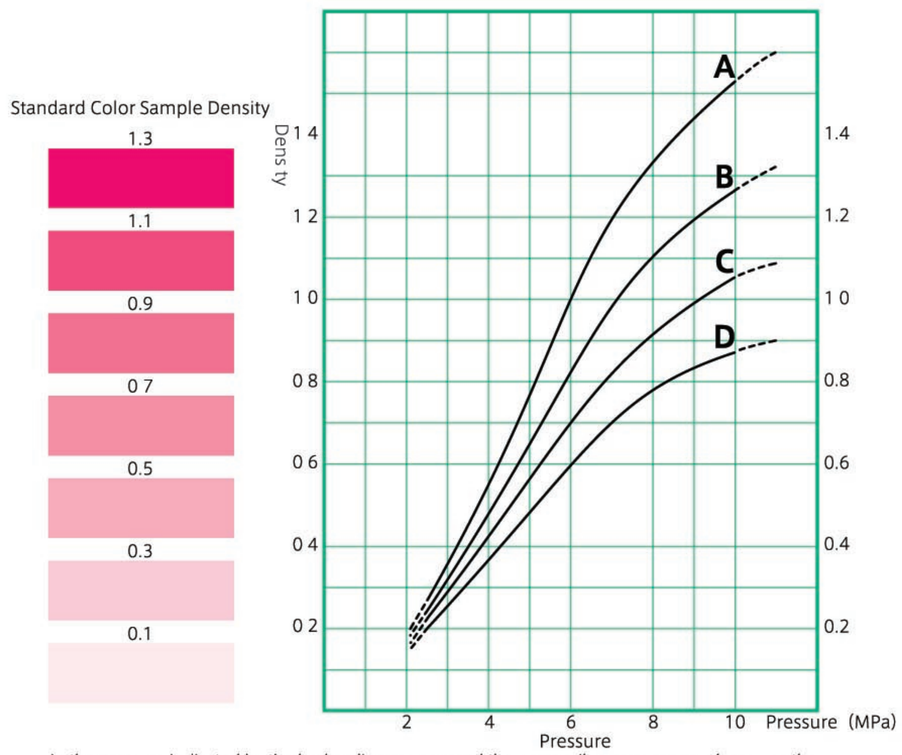
Operational Environment

Prescale (Two-sheet type／Mono-sheet type)			
Accuracy	±10% or less (when measured with densitometer at 23℃/73.4°F, 65% RH)		
Recommended temperature	20℃～35℃ (68°F ～95°F)	Recommended humidity	35%RH～80%RH

Pressure Chart (Low Pressure〈LW〉case)

●Continuous pressure

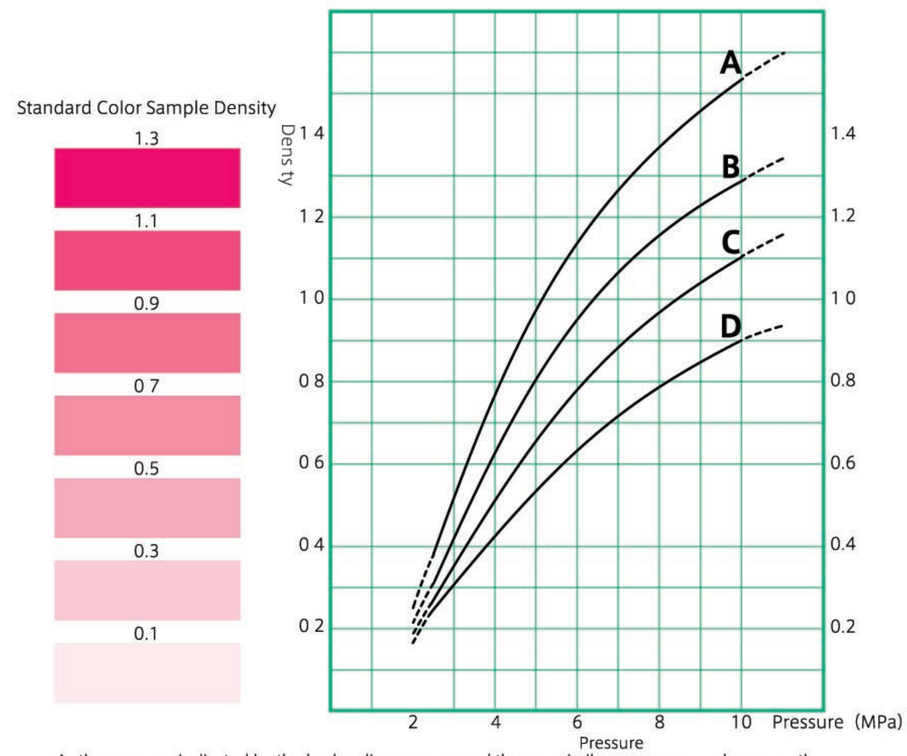
Measurement pressure range:Low pressure (2.5～10 MPa)
Pressure application condition:Time to reach the pressure 2 min.
Time of retention at the pressure 2 min.



As the pressure indicated by the broken line may exceed the perm ssib e error range, please use the data for reference purpose on y

●Momentary pressure

Measurement pressure range:Low pressure (2.5～10 MPa)
Pressure application condition:Time to reach the pressure 5 sec.
Time of retention at the pressure 5 sec.



As the pressure indicated by the broken line may exceed the permissib e error range, please use the data for reference purpose only.

＊:Taking the temperature and humidity condition into consideration, select a curve among A, B and C.

＊Specifications and performance capabi ities are subject to change without notice.

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