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KOREA REINFORCING ENGINEERING & TRADE

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**KOR-GFW**

## USES

KOR-GFW is used for reinforcement against bending shear of such structures as elevated floor slabs, bridges, piers and building structures.

## DESCRIPTION

KOR-GFW is a Uni-Directional (UD) woven fabric designed for concrete structures reinforcing and strengthening.

## PHYSICAL PROPERTIES

Fiber areal weight	935 g/m <sup>2</sup>
Fiber design thickness	0.36 mm
Fiber tensile strength	2,300 Mpa
Fiber tensile e-modulus	76 Gpa
Strain at break of fibers	3.1 %
Shelf life	Unlimited
Packaging	1 roll in plain cardboard

## SURFACE PREPARATION

Expose firm surface of a given substrate by removing paints, concrete plaster, contaminations or deteriorated areas using a grinder or similar tool to ensure the Glass UD Fabric will have sufficient adhesion. Make the concrete surface even by removing protruding parts. The appropriate surface roughness of a Glass UD Fabric is 1mm or less. Corners are rounded by grinding within R-10mm. Thoroughly remove grinding dust with compressed air or a rug. Dry sufficiently when cleaned with water. Surface grinding and cleaning are critical to ensure work quality.

## SURFACE REPAIR

Fill conspicuous dents on the concrete surface with a high strength mortar, epoxy mortar etc. Finish the mortar surface roughness within 1mm or less. Apply rust-proofing (anti-corrosive) chemical to exposed steel rods. Fill cracks with epoxy resin or similar materials. Apply water-proofing or guiding materials to sections where water is leaking

## SURFACE PRIMER

Select an appropriate primer in consideration of the temperature after checking the surface state (dust, moisture, etc.). Determine the amount of the primer to mix for one batch considering the area to apply, time required, manpower and skill levels. Mix primer using an electric mixer for two to three minutes till it reaches an even color after mixing the base and hardening materials with a weight based ratio of 2 to 1. Move the mixed primer to an appropriate container and apply it evenly with a coating roller. Apply at a thickness of 250g/m<sup>2</sup> though varying depending on the surface conditions.

## FILLING OF SURFACE IRREGULARITIES

Select an appropriate epoxy putty considering the adhesiveness, viscosity and curing or hardening speed. Smoothly finish the surface by filling up holes or dents with putty using a rubber or plastic spatula. cleaning are critical to ensure work quality.

## APPLICATION OF GLASS FABRIC

Determine the resin type after establishing implementation plans considering the area, shape, workforce, work conditions and curing time. Cut the Glass UD Fabric into suitable lengths (usually 3~4m) using a pair of scissors or cutter. Mix the resin base and curing agent using an electric mixer for two to three minutes till it turns an even color after mixing the base and curing material at a weight ratio of 2 to 1.

Move the mixed resin to an appropriate container and apply evenly with a coating roller. Attach the Glass UD Fabric with the release base paper intact on the prime resin coat area. Detach the release base paper after fixing the sheet tight on the surface with a rubber spatula. Press the sheet hard along the fiber texture with a roller till the prime coat resin soaks through the Glass UD Fabric. Attach the sheet with 10cm or longer overlapping space in the fiber length direction. Apply pressing as mentioned above. Overlapping in the direction of width is not required. Coat the Glass UD Fabric surface with the mixed dipping resin within 30 minutes to three hours from pressing.

The top coat needs be applied evenly on the Glass UD Fabric surface by moving the roller in the fiber length direction only. When two or more layers of Glass UD Fabric are applied, let the first top coat dry fully before proceeding to the next layer. Generally, one coat per day is the normal. Correct the first layer's defective areas before applying the second layer.

## CURING AND FINISH COATING

The following curing period is required to obtain the design strength of the Carbon UD Fabric. Cover the outdoor implementations to prevent contamination from rain, wind or dust during the curing period.

The coverings should not touch the surface directly.

Encapsulation Resin	Standard Type	Summer Type
Temperature (°C)	15 – 25 °C	25 – 35 °C
Curing Period	7 Days	7 Days

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