Waterfall

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Waterfall was inspired by the dynamism, physical strength and apparent weightlessness of falling water. The purpose of this design was to research the combined use of digital technologies and traditional textile and apparel design techniques. *Waterfall* combines flat pattern drafting and hand draping with hand-painting, computer aided design and digital printing to create an engineered print design. *Waterfall's* simple silhouette emphasizes the subtle gradation of the engineered digital prints. As the wearer moves, both printed layers change in relation to each other, creating an ephemeral overall design.

Waterfall's silhouette was developed using flat pattern drafting and hand draping techniques. Different silk fabrics were used to provide contrasts of fabric weight, drape and opacity. The under-layer was constructed from 12.5mm silk charmeuse and the over-layer was constructed from 3.5mm silk gauze. The different silhouettes of the layers express a waterfall's strength and weightlessness. Silk gauze and charmeuse moves with the wearer as they walk while the train swirls and eddies onto the floor. The gown thus emulates a waterfall's dynamic fluidity and apparent weightlessness.

The interplay between a waterfall's dynamism, vertical strength and weightless volume is interpreted using three engineered print designs. Hand painting and digital manipulation techniques were used to create *Waterfall's* engineered designs. A water color and gauche painting was created by the designer. Two engineered designs printed on the silk gauze were created in Lectra Kaledo Print, using the painting as a base for the motif, color and texture of the print. One design was engineered for the over-layer and a second engineered for the manteau train. An engineered gradient was created in Adobe Photoshop and digitally printed on the silk charmeuse used for the fitted under-layer of the gown. The vertical gradient on the heavier weight silk grounds the dynamic movement of the print on the over-laying silk gauze. Factors considered during the digital design phase were; the placement of the print on the body of the gown, dimensions of the final printed fabric and the impact of fabric opacity and layering on color.

All fabrics were printed using a Mutoh UJET MC2 digital printer with reactive dye-based ink and steamed for 45 minutes using an 110vt, 16 amp Jacquard Vertical Fabric Steamer to set the dye. Excess dye was removed by hand-washing fabric in warm water and gentle, phosphate-free laundry detergent. The gown is fully lined, with a fully boned inter-lining to support the strapless bodice. Construction of the gown was performed using machine and hand construction techniques.

Fabrics: 12.5 mm silk charmeuse and 3.5 mm silk gauze, pre-treated for digital printing.

Technology: Lectra Kaledo Print, Adobe Photoshop, Mutoh UJET MC2 printer, eight color Novacron MI reactive ink set.