NORTHFORD STRUCTURAL CONNECTIONS

PRODUCT DATA SHEET

DOUBLE-TEE FLEXIBLE CONNECTION

PRODUCT DESCRIPTION

The Double-Tee Flexible Connection – DTFC – is an innovative retrofit structural shear connection for the repair of precast, single and double-tee garages. The connection provides vertical and seismic shear restrain while allowing necessary movement transverse to the double-tee joint to relieve stress from thermal expansion and contraction of the deck. It may be used for the reinforcement and/or the replacement of existing, deteriorated single/double-tee flange shear connections.

USES

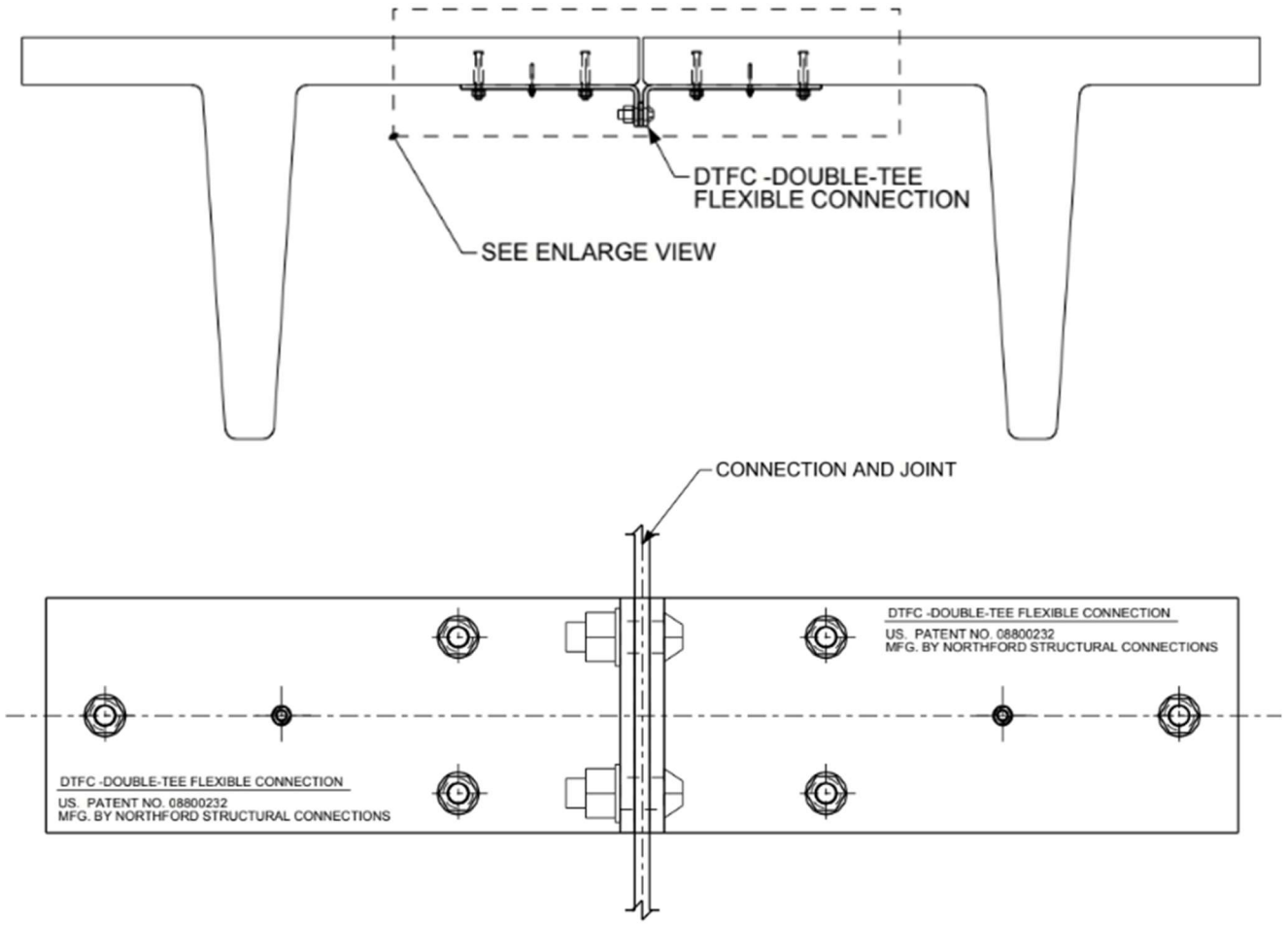
- Designed for the repair of existing double-tee shear connections that have deteriorated due to corrosion, stress, or fatigue.
- Can be used at entire deck without causing over stress between shear walls due to inflexible connection repairs.
- Places the connection below the deck allowing sealant joints to last longer and concrete repairs to be performed at flange edge spalls without stressing the repair mortar.
- Suitable for all deck flanges 4” thick and larger that can receive a ½” post installed anchor.
- Easily inspectable for Controlled Inspections.
- Eliminates welding and concrete repairs at deteriorated connections.
- Excellent for problematic connections or decks where wide scale deterioration has occurred.
- Stops reoccurring connection failures.

CHARACTERISTICS / ADVANTAGES

- Stainless steel plates and galvanized TC bolts for corrosion resistance.
- Easily installed with stainless-steel, post installed anchors.
- Installed under the deck and out of the weather.
- Vertically slotted holes allow the DTFC to sit tight against the deck; no shimming required for uneven deck surfaces.
- Can be installed without stopping traffic (recommended that traffic not be allowed directly above anchor drilling operations).
- Quick installation/lasting repair.

PRODUCT INFORMATION

DTFC Plates	ASTM A167, Type 304
Bolts*	ASTM A325 / F1852 Type 1
Heavy-Hex Nuts*	ASTM A563
Washers*	ASTM F436
***Glavanizing**	ASTM B 695, Class 50
Recommended Post Installed Anchors	Hilti HAS-R 304 SS w/ HIT-HY200 <or> Hilti KH-EZ CRC w/ KHC adhesive capsules
Recommended Erection Anchors	Hilti KB-TZ SS304



DTFC - DOUBLE-TEE FLEXIBLE CONNECTION DETAIL

INSTALLATION INSTRUCTIONS

- For full installation information see NSC Guide Specification
- Locate DTFC minimum 12 inches from existing connection to ensure deterioration at existing connection does not interfere with new connection.
- Using assembled DTFC bracket or template, mark out and drill erection holes. Install erection anchors to allow DTFC assembly to be safely supported overhead.
- Install DTFC brackets with spacer on erection bolts and hand tighten TC bolts.
- Ensure assembly sits tight to underside of deck, both sides of joint.
- Mark holes for post installed anchors. Disassemble bolts, remove spacer, and rotate brackets about erection anchors 90 degrees to allow access to drill for anchors. Drill and clean holes for anchors.
- Rotate brackets back to position and properly align.
- Install post installed anchors per manufacturer's instructions and allow to cure.
- Install washers and nuts and torque per manufacturer's instructions.
- Reinstall spacer and nuts and bolts. Torque bolts to tension control condition.

LIMITATIONS

- All existing shear connections along a single double-tee joint should be replaced at a time. DTFC is not intended for partial joint connection replacement along a joint.
- Install minimum one DTFC for each existing shear connection along a joint. Additional DTFC may be required depending on shear loading requirements.
- Connection may be subject to Special/Controlled Inspections per local Code requirements.
- Post installed anchors to be installed per manufacturer's instructions.
- Stainless steel bolts/washer/nuts (ASME B18.2.1/ ASME B18.2.2/B19.21.1) are recommended for severe corrosion protection; this is not typically necessary under normal conditions.
- NSC assumes no delegated design responsibility.

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