

HUSHCORE™ *Economy*™ System Model NIC-DS-53 for Rooftop Mounted HVAC Units With Internal Isolation On Non-Isolated Factory Curbs

(15,23xxx) RTU Equipment – NOISE CONTROL

PART 1 – GENERAL

1.1 Work Included

- A. The work consists of furnishing a HUSHCORE™ *Economy*™ System model NIC-DS-53 for rooftop units as described in this specification.

1.2 Submittals

- A. Include construction details, materials, dimensions of individual components, profiles and finishes.
- B. Detail fabrication including anchorages and attachments to structure and to supported equipment.
- C. A copy of ASTM E-90-10 test results from an independent lab shall be included in the submittal.

1.3 Quality Assurance

- A. Company specializing in the manufacture of acoustical and vibration systems and equipment/related accessories with not less than 35 years documented successful experience for work comparable to work of this project.
 - 1. All component products outlined in this specification shall be furnished by a single supplier.
- B. Seismic requirements shall be as outlined in the Vibration and Sound Control specification [].
- C. The *Economy*™ System shall be supplied with the packaged air handling unit equipment.

PART 2 – PRODUCTS

2.1 Manufacturers

A. BRD Noise and Vibration Control, Inc.

Corporate: PO Box 127, 112 Fairview Avenue, Wind Gap, PA, 18091,
Phone: (610) 863-6300, Fax: (610) 863-4230, E-mail:
info@brd-nonoise.com, Website: www.Hushcore.net.

- B. Alternates must be submitted and approved 10 days prior to project bid date as “or equal” compliant.

2.2 Materials - HUSHCORE™ *Economy*™ System model NIC-DS-53 shall consist of a factory non-isolated curb and a HUSHCORE™ *Deck*™ System model DS-53 In-Curb Acoustical Treatment System.

A. HUSHCORE™ *Economy*™ System shall consist of the following components:

- 1. RTU manufacturer’s standard factory non-isolated curb with unit internal isolation.

2. The factory curbs shall bear directly on the roof support structure and be flashed and waterproofed into the roof's membrane waterproofing system.
3. RTU internal isolation shall be spring isolation or other to provide a vibration isolation efficiency of minimum 85% based on equipment operating speed.
4. Curb sides and ends shall be manufactured from galvanized sheet metal (expanded metal or painted steel is not acceptable), reinforced and cross braced as required.
5. The factory curb shall accept standard 2" roof insulation supplied and installed by the roofing contractor.
6. Wood nailer and flashing shall be provided and factory curbs shall be manufactured to NRCA standards.
7. Curb height shall be 14" high minimum or as shown on the drawings.
8. All non-galvanized materials shall be prime paint finished.
9. All duct supports, bracing, flashing and safing as required.

B. HUSHCORE™ Model DS-53 In-Curb Composite Acoustical Treatment

1. HUSHCORE™ DS-53 acoustical composite
 - a. The overall installed thickness shall be 8" for the DS-53 composite rated at STC-53
 - b. The composite panels shall get HUSH SEALANT™ model HSAC-100 acoustical grade caulk at seams and all perimeter edges inside the curb
 - c. Seams for each layer shall be staggered

2.3 Decking

- A. Decking shall be maintained inside the RTU roof curb to a clearance of ¼" maximum around all duct drops but never contact the duct.
 1. Pack all air gaps around duct drops for return and supply with HUSH BATT™ and seal with HUSH SEALANT™ HSAC-100.

2.4 Inspections

- A. The *Economy*™ System manufacturer or their local authorized agent shall inspect the in-curb deck system work on site prior to lowering of the units and issue a letter of certification stating that the products have been properly installed and sealed around all ductwork and drops to eliminate air gaps which can compromise performance. Photo verification is acceptable for review and approval.

2.5 Performance

- A. To assure optimized aerodynamic and acoustic performance as well as proper integration and coordination of the final installation, the *Economy*™ System shall be supplied by the rooftop unit manufacturer as part of a turnkey package.

B. HUSHCORE™ Model DS-53 In-Curb Composite Acoustical Treatment Performance

1. The combination of all layers shall be tested for Sound Transmission Loss in accordance with procedure ASTM E-90-10. The assembly shall be rated at not less than STC-53 with 1/3 octave performance values as listed below for sound radiation through the deck inside the curb.

Freq. (Hz)	<u>80</u>	<u>100</u>	<u>125</u>	<u>160</u>	<u>200</u>	<u>250</u>	<u>315</u>	<u>400</u>	<u>500</u>	<u>630</u>	<u>800</u>	<u>1K</u>
TL (dB)	26	29	30	32	36	41	46	51	55	57	60	61

Freq. (Hz)	<u>1250</u>	<u>1600</u>	<u>2000</u>	<u>2500</u>	<u>3150</u>	<u>4000</u>	<u>5000</u>	<u>6300</u>	<u>8000</u>
TL (dB)	64	65	65	65	69	72	74	73	75

2. A copy of the test report by an accredited lab shall be included in the submittals to document the above performance

END OF SECTION