



# QUALITY ASSURANCE SPECIFICATIONS™

SFI SPECIFICATION 15.2

EFFECTIVE: MARCH 8, 2019\*

PRODUCT: Drag Race Front Wheels

## 1.0 GENERAL INFORMATION

- 1.1 This SFI Specification establishes uniform test procedures and minimum standards for evaluating and determining performance capabilities for Drag Race Front Wheels used by individuals engaged in competitive motorsports.
- 1.2 The procedures, test evaluations and standards contained herein, are intended only as minimum guidelines for construction and evaluation of products. Certification that products meet such minimum standards is made by the product manufacturer and products are not certified, endorsed or approved by SFI under this program.
- 1.3 Use of the "This Manufacturer Certifies That This Product Meets SFI Specification 15.2" logo/designation, the authorized artwork style, or conventional lettering by a manufacturer, on a subject product, is intended only to indicate that the manufacturer of the product has represented that they have submitted the product to the recommended tests, with positive results, in compliance with the standards established herein.
- 1.4 This SFI Specification requires a demonstration that the product of a manufacturer meets or exceeds the requirements when the manufacturer enters the program; and on a periodic basis thereafter. Any manufacturer may participate in the program by providing Drag Race Front Wheels that meet or exceed the SFI Specification 15.2 test standards, by complying with the requirements of the SFI Specification 15.2 program, and by signing a licensing agreement with the SFI Foundation, Inc.

- 1.5 Compliance with this specification is entirely voluntary. However, when a manufacturer provides Drag Race Front Wheels in compliance with all requirements of the SFI Specification 15.2 and enters into the licensing agreement with the SFI Foundation, Inc., they may certify that compliance with such standards is in accordance with the guidelines established herein.
- 1.6 Manufacturers wishing to participate in the program, in addition to the other requirements of this specification, must label each of their products with the manufacturer's name, trademark or symbol as well as the date of manufacture of the product.
- 1.7 No manufacturer may display the SFI logo/designation on their product unless the manufacturer has signed a licensing agreement with SFI and has successfully complied with all the requirements of this specification and the self-certification program.

## 2.0 DEFINITIONS

- 2.1 Drag Race Front Wheels are wheels intended for high speed competition on a straight track that does not require the vehicle to make turns while at racing speed.
- 2.2 Any wheel pertaining to this specification shall remain as constructed by the original manufacturer and shall not be modified or altered by any one else.
- 2.3 Effective March 8, 2019, new wheels certified to 15.2 may not be painted or powder coated except by the original manufacturer.

## 3.0 CONSTRUCTION

Drag Race Front Wheels may be constructed by any method or may use any material that can meet the performance requirements of the specification.

## 4.0 MODEL CLASSIFICATION

If all other factors remain the same, a change in the mounting method is not considered a model change.

## 5.0 TESTING

Test samples shall be fully processed new wheels which are representative of wheel and tire assemblies currently produced or to be produced for use on drag race front wheel location.

### 5.1 IMPACT TEST

The wheel and tire assembly shall be tested in accordance with the apparatus, equipment and procedures specified in SAE J1981 with the differences and additions stated hereinafter. The "drop height" shall be  $1.80 \pm .10$  ft. The test shall be performed at a laboratory temperature of  $70^{\circ}$  -  $100^{\circ}$  F after the test assembly has been at that temperature for 12 hours.

#### 5.1.1 PROCEDURE

- A. Before mounting the tire on the test wheel, the following specific measurements shall be taken and recorded using Tire and Rim Association nomenclature:

Rim width  
Total flange width

Also examine the wheel rim and center for cracks, dents and contour discontinuities.

- B. Follow the procedures for mounting and alignment, and actual dropping of the striker as specified in SAE J1981. The mounting of the test assembly shall be as close to the method used on an actual race vehicle as possible as prescribed by the wheel manufacturer. Tire pressure shall be  $60 \pm 5$  PSI.
- C. Drop the striker from the specified drop height in Paragraph 5.1 above.
- D. Wait 5 minutes and measure tire pressure if tire is still inflated.

#### 5.1.2 INSPECTION

After a single impact and the tire pressure measurement in Paragraph 5.1.1.D above, remove the wheel and tire assembly from the fixture and dismount the tire. Examine and measure the same features as in Paragraph 5.1.1 above to determine whether any change, distortion or damage has occurred to the wheel. Record all measurements and observations.

## 5.2 DYNAMIC RADIAL FATIGUE

The wheel/tire combination shall be tested and evaluated in accordance with the SFI Technical Bulletin 5.0, Dynamic Radial Fatigue, with the differences stated hereinafter. The radial load shall be 2,000 lbs. (910kg). The wheel shall be subjected to 100,000 cycles. Tire pressure shall be  $60 \pm 5$  PSI.

### 5.2.1 PROCEDURE

- A. Before mounting the tire on the test wheel, examine the wheel rim and center for cracks, dents and contour discontinuities.
- B. Mount the tire on the test wheel and secure the assembly to the fixture using wheel manufacturer's specified method and torque.
- C. Perform the test. In the event of test tire failure during testing, it is acceptable to mount another test tire and continue the test. Record the test load used and number of cycles completed.
- D. Measure tire pressure after completion of test.

### 5.2.2 INSPECTION

Inspect the rim for any evidence of new fractures or propagation of any existing fractures of any part of the wheel while still under load. Remove the load then remove the wheel assembly from the fixture and dismount the tire. Examine and measure the same features as in Paragraph 5.2.1 above to determine whether any changes, distortion or damage has occurred to the wheel. Record all observations.

## 6.0 PROOF OF COMPLIANCE

Drag Race Front Wheel manufacturers are required to provide the following information to enroll in this program:

### 6.1 TEST RESULTS

Test results shall be documented in a test report.

### 6.1.1 IMPACT TEST

A wheel shall be considered to have failed if any of the following occurs:

- A. A visually detected new fracture or propagation of any existing fracture of any part of the wheel.
- B. Measurable changes to any or all the dimensions called out in Paragraph 5.1.1.A that are outside the limits below.

Rim width within  $\pm .250$  inch

Total flange width within  $\pm .500$  inch

- C. Loss of air pressure value greater than 15 PSI from pretest value caused by distortion or damage to the wheel even if dimensions do not fall outside limits in 6.1.1.B above.
- D. If the mounting system of the test wheel and tire assembly to the fixture becomes loose after the impact, the test must be repeated with a new wheel and tire.

### 6.1.2 DYNAMIC RADIAL FATIGUE

A wheel shall be considered to have failed if any one of the following occurs:

- A. A visually detected new fracture or propagation of any existing fracture of any part of the wheel.
- B. Inability of the wheel to sustain the applied load for the required number of cycles.
- C. Loss of air pressure value greater than 5 PSI from pretest value caused by distortion or damage to the wheel.

## 7.0 TEST REPORTS

A separate test report, or set of test reports if required, shall be submitted for each product model. If more than one test facility is required to complete all necessary tests, then a separate test report shall be submitted from each one. The test facility shall assign a unique number to each test report. This number and the report date shall appear on each page. Each test report shall include:

## 7.1 RELEVANT INFORMATION

- 7.1.1 Manufacturer's name, contact name, address and telephone number.
- 7.1.2 Name, address and telephone number of the test facility.
- 7.1.3 Name and signature of the responsible test supervisor.
- 7.1.4 The actual date of the test.
- 7.1.5 Specification number and effective date.
- 7.1.6 Product name, description and model designation.
- 7.1.7 Component name and description.
- 7.1.8 Front and backside photos of the submitted wheel.

## 7.2 TESTS

Each test conducted shall be listed showing the test name, apparatus used, procedure used and test results obtained along with any other appropriate information.

## 7.3 AUTHENTICATION

Test reports shall be authenticated and stamped by a Professional Engineer who is registered in the state in which the testing is conducted. If necessary, SFI may allow an equivalent entity to provide authentication.

## 8.0 INITIAL DESIGN VALIDATION

To receive initial recognition from SFI as a participant in the SFI Specification 15.2 Program, the manufacturer must submit to SFI all information delineated in the Proof of Compliance section. This information shall be provided for each Drag Race Front Wheel model offered by the applicant that is to be included in the program. Any change in design, materials and/or methods of manufacturing not specifically excluded is considered a model change and, therefore, requires initial design validation.

Note: A model certification is based on a successful test of a wheel with specific dimensions and mounting method. A wheel variation shall not be considered certified under this model if it is later produced with different dimensions unless it is also successfully tested.

## 9.0 PERIODIC REVALIDATION

Test reports with successful test results must be submitted to SFI at least once every 24 month period following the date of the initial design validation test for each model of Drag Race Front Wheel manufactured by the participant. If multiple test reports are required to obtain all test results, then the earliest test date shall be used to determine when the periodic revalidation reports are due. Also, SFI shall retain the option to conduct random audit reviews. SFI shall purchase the product on a commercial basis and test for compliance to the specification. The submitting manufacturer shall reimburse SFI for all audit costs.

## 10.0 CERTIFICATION OF COMPLIANCE

Upon demonstration of successful compliance with all the requirements of the specification and the self-certification program and upon entering the licensing agreement with SFI, the manufacturer may advertise, present and offer the Drag Race Front Wheels for sale with the representation that their product meets the SFI Specification 15.2. Continuing certification is contingent upon the following additional considerations: (1) the product shall be resubmitted for testing following any change in design, materials and/or methods of manufacturing not specifically excluded, and (2) periodic revalidation test reports are submitted when due to SFI.

## 11.0 CONFORMANCE LABELS

The conformance label is a sticker which shall be placed on the outboard weather surface of the wheel, visible when the tire is mounted. Besides placing the label on the part, the serial number of the label shall be permanently marked on the part. The permanently marked number should be on the outer surface of the center section. The serial number should appear on the customer invoice to aid in identification and tracking.

## 12.0 DECERTIFICATION

Participating manufacturers are subject to decertification when not in compliance with the requirements of this program or when their products are not in compliance with the requirements of this specification. Decertification will provide SFI the right to effect any and all remedies which are available to SFI in the licensing agreement.

## 13.0 APPEAL PROCEDURE

In the event of decertification, the manufacturer is entitled to an appeal of the decision of SFI. Requests for appeal must be received by SFI no later than thirty days following receipt of the notice of decertification. Appeals of such decisions will be heard at the next meeting of the Board of Directors of SFI.

## 14.0 STATEMENT OF LIMITATIONS

Testing procedures and/or standards contained in this specification are intended for use only as a guide in determining compliance with the minimum performance requirements as defined herein. The granting and assignment of the "This Manufacturer Certifies That This Product Meets SFI Specification 15.2" logo/designation is in no way an endorsement or certification of product performance or reliability by SFI. SFI, its officers, directors and/or members assume no responsibility, legal or otherwise, for failure or malfunctions of a product under this program.

## 15.0 COSTS

All costs involved in this program will be absorbed by the submitting manufacturer.

## 16.0 COMPLIANCE PERIOD

As this specification is revised to reflect changes in technology and/or field conditions, to remain current, participating manufacturers in the SFI Specification 15.2 Drag Race Front Wheel Program must demonstrate full compliance with the requirements of this specification within ninety (90) days of the latest effective date.

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