



Certificate of Conformity

Certificate num.	Registration date	Version	Valid until	
afp - 3508	31-Aug-2020	Number 4	Issue date 17-May-2022	30-Apr-2023

Page 1 of 3

Product designation

Tiger, Sched 30/40, ASTM A53/A53M (FM Class 1630) Series, plain end and roll grooved end, fire sprinkler/hydrant pipe

(Refer to the Schedule/enclosures for further specified details)

Agent/distributor

Macsteel International Australia
Suite 2.01, 1 Gordon Street, CREMORNE, VIC, AUSTRALIA, 3121

Registrant

Macsteel International Australia
Suite 2.01, 1 Gordon Street, CREMORNE, VIC, AUSTRALIA, 3121

Producer

T S I Metal Industries (L.L.C.)
Al Quasis Industrial Area 1, PO Box 3208, DUBAI, UNITED ARAB EMIRATES

Conformance criteria and evaluation

The Tiger, Sched 30/40, ASTM A53/A53M (FM Class 1630) Series, plain end and roll grooved end, fire sprinkler/hydrant pipe has been evaluated and verified as conforming with the relevant requirements of the following criteria.

1. ASTM A53/A53M, 'Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless'.
2. Approval Standard FM Class Number 1630, 'Approval Standard for Steel Pipe for Automatic Fire Sprinkler Systems'.
3. Factory Mutual - Evaluation and approval, 'FM approval'.
4. Underwriters Laboratories Standard UL 852, 'Standard for Metallic Sprinkler Pipe for Fire Protection Service'.
5. Underwriters Laboratories - Evaluation and listing, 'UL listing'.

This certification is issued within the scope of CSIRO Verification Services – Rules governing ActivFire Scheme and is valid only for the product(s) as submitted for evaluation and verification of conformity, subject to the following conditions.

- Reference to details, limitations and requirements, where documented as a schedule/enclosure with this certificate.
- The Registrant is responsible for their attestation of conformity and ensuring that on-going production complies with the conformance criteria defined in this certificate.
- This certificate will not be valid if any changes or modifications are made to the product which have not been notified and validated by CSIRO Verification Services.
- This certificate is subject to periodical re-validation upon verification that all requirements, as determined by the conformity assessment body, continue to be satisfactorily met by the Registrant.
- This certificate may only be reproduced in its published form, without modification and inclusive of all schedules/enclosures.
- Any changes, errors or omissions, must be submitted in writing and if necessary or requested, substantiated with relevant evidence.
- Any representations, such as advertising or other marketing related activities or articles shall reflect the correct contents of this certificate and conform with all relevant trade practices and consumer protection legislation and regulations.
- Any terms or conditions of use as applicable to content and documentation as published or accessed through web sites administered by the CSIRO Verification Services.

Issued by

David Whittaker
Executive Officer – ActivFire Scheme



Schedule to Certificate of Conformity

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Limitations/conditions of conformance

Limitations/conditions of conformance, where identified on this certificate, are derived from qualifications from evaluation(s) for conformity and/or other related technical documentation. All details with respect to design, assembly and installation instructions and restrictions should be checked against the producer's current technical manual/data sheets and the requirements of the Authority having Jurisdiction.

Specified limitations/conditions, determined from the evaluation for conformity, include the following.

- i. System design and installation shall be determined and verified in accordance with the performance and prescribed requirements of the regulations, standards and criteria as specified by the building code and authorities having jurisdiction.
- ii. System design and installation requirements may specify a minimum wall thickness that precludes the use of some of the scheduled pipe sizes for certain applications and locations.
- iii. The dimensional and mechanical compatibility of pipes must be verified with the sizes of components by which they are connected or to which they connect.

Technical specification

The following details are a representative extract of the technical specification for the Tiger, Sched 30/40, ASTM A53/A53M (FM Class 1630) Series, plain end and roll grooved end, fire sprinkler/hydrant pipe and may be subject to change. Complete and current details should be determined from the designated producer's technical manual/data sheets.

Schedule of variant designations

The following is a schedule of validated variant designations of the certified/listed equipment.

Schedule	DN	NPS	Diameter		Wall thickness	
			Metric	Imperial	Metric	Imperial
30	15 mm	½"	21.3 mm	0.840"	2.41 mm	0.095"
	20 mm	¾"	26.70 mm	1.050"	2.41 mm	0.095"
	25 mm	1"	33.40 mm	1.315"	2.90 mm	0.114"
	32 mm	1¼"	42.20 mm	1.660"	2.97 mm	0.117"
	40 mm	1½"	48.30 mm	1.900"	3.18 mm	0.125"
	50 mm	2"	60.30 mm	2.375"	3.18 mm	0.125"
	65 mm	2½"	73.00 mm	2.874"	4.78 mm	0.188"
	80 mm	3"	88.9 mm	3.500"	4.78 mm	0.188"
	90 mm	3½"	101.60 mm	4.000"	4.78 mm	0.188"
	100 mm	4"	114.30 mm	4.500"	4.78 mm	0.188"
*30	125 mm	5"	141.30 mm	5.563"	4.78 mm	0.188"
	150 mm	6"	168.30 mm	6.625"	5.56 mm	0.219"
30	200 mm	8"	219.10 mm	8.625"	7.04 mm	0.277"
40	15 mm	½"	21.3 mm	0.840"	2.77 mm	0.109"
	20 mm	¾"	26.70 mm	1.050"	2.87 mm	0.113"
	25 mm	1"	33.40 mm	1.315"	3.38 mm	0.133"
	32 mm	1¼"	42.20 mm	1.660"	3.56 mm	0.140"
	40 mm	1½"	48.30 mm	1.900"	3.68 mm	0.145"
	50 mm	2"	60.30 mm	2.375"	3.91 mm	0.154"
	65 mm	2½"	73.00 mm	2.874"	5.16 mm	0.203"
	80 mm	3"	88.9 mm	3.500"	5.49 mm	0.216"
	90 mm	3½"	101.60 mm	4.000"	5.74 mm	0.226"
	100 mm	4"	114.30 mm	4.500"	6.02 mm	0.237"
	125 mm	5"	141.30 mm	5.563"	6.55 mm	0.258"
	150 mm	6"	168.30 mm	6.625"	7.11 mm	0.280"
	200 mm	8"	219.10 mm	8.625"	8.18 mm	0.322"

* Not Schedule 30 but considered as per specified requirements of conformance criteria.

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				Page 3 of 3

Schedule of properties/characteristics

The following schedule is an extract of physical and operational properties/characteristics of the certified/listed equipment.

Outside diameter	± 0.40mm (1/64") for size up to and including NPS 1-1/2" and ± 1% of the specified O.D. for NPS 2" and above
Thickness	Minimum wall thickness 12.5% max under the specified wall thickness and not specified on positive side
Weight	± 10% of specified weight
Length	1.5 to 8.0 m (5' to 25') for black & galvanized pipes and 3.0 to 12.8 m (10' to 42') for black pipes NPS 3" to 8".
Straightness	As mutually agreed with client
End finish	Plain Ends (Square Cut); Bevel Ends (Angle 30°, -0°/+5°); Threaded with or without coupling; Roll grooved.

Supplementary information

Schedule of relevant articles

The following schedule is an extract of articles significant and/or related as evidence of conformity.

Reference		Title / description	Date issued (or date validated)	Source
Ident. type	Ident.			
Approval Identification	RR213185	Certificate of Compliance Steel Pipe for Automatic Fire Sprinkler Systems ASTM A795 / A795M, Schedule 5 ASTM A795 / A795M, Schedule 10 ASTM A53 / A53M, Schedule 30 ASTM A53 / A53M, Schedule 40	26-Mar-2018	FM Approvals, US
Certificate Number	20160428-EX26998	Certificate of Compliance Certificate Number 20160428-EX26998 Report Reference EX26998-20160428 METALLIC SPRINKLER PIPE UL 852, Metallic Sprinkler Pipe for Fire Protection Service	28-Apr-2016	Underwriters Laboratories, US
Technical data sheet	<small>tsi_TechnicalData_ASTM795_2020-08-14.pdf</small>	Technical Data of Pipes Conforming to ASTM A795 GRADE A & B <small>(tsi_TechnicalData_ASTM795_2020-08-14.pdf)</small>	11-Jul-2019	T S I Metal Industries (L.L.C.), AE
	<small>tsi_TechnicalData_ASTM-A53_2020-08-14.pdf</small>	Technical Data of Pipes Conforming to ASTM A53 GRADE A & B <small>(tsi_TechnicalData_ASTM-A53_2020-08-14.pdf)</small>	11-Jul-2019	