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Corrigendum

Corrigendum to "Mechanical characterization and modelling of Inconel 718 material behavior for machining process assessment" [Mater. Sci. Eng. A 682 (2017) 441–453]

A. Iturbe[a], E. Giraud[b], E. Hormaetxe[a], A. Garay[a], G. Germain[b], K. Ostolaza[c], P.J. Arrazola[a,*]

[a] *Faculty of Engineering, Mondragon University, Loramendi 4, Arrasate 20500, Spain*
[b] *Arts et Métiers ParisTech, CER Angers, Laboratoire LAMPA, 2 Bd du Ronceray, 49035 Angers Cedex 1, France*
[c] *ITP, Parque Tecnológico, Edificio 300, 48170 Zamudio, Bizkaia, Spain*

The authors regret any inconvenience that may have arisen due to the errors identified. There are 5 errors in total, all stemming from the fact that (i) the thermal softening parameter m has a negative value instead of positive one, and (ii) the strain hardening equation and its coefficients were incorrect.

1. The first error to correct is located in Table 8 (page 450), where the m parameter has a value of 0.00663 (positive), when it should be negative: -0.00663. Therefore, the corrected Table 8 is:

2. Secondly, there is an error in the section where the strain rate hardening term is explained (section *4.3. Strain rate hardening*). In the paper, Eq. (6) (page 452) presents the strain rate hardening term as a function of three parameters (x, C and D):

$$\sigma_{\dot{\varepsilon}} = \left[1+C(T)\ln\left(\frac{\dot{\varepsilon}}{\dot{\varepsilon}_0}\right)\right] = \left[1+(C+De^{-T/x})\ln\left(\frac{\dot{\varepsilon}}{\dot{\varepsilon}_0}\right)\right] \tag{6}$$

The corrected Eq. (6) should read as follows:

$$\sigma_{\dot{\varepsilon}} = \left[1+C(T)\ln\left(\frac{\dot{\varepsilon}}{\dot{\varepsilon}_0}\right)\right] = \left[1+(C \cdot D^T)\ln\left(\frac{\dot{\varepsilon}}{\dot{\varepsilon}_0}\right)\right] \tag{6}$$

As a result of the modification in the strain rate hardening equation some further aspects of the paper also need to be corrected:

2.1. In Table 10 (page 452) the equation for the strain rate hardening needs to be replaced with the proposed new one (Eq. (6)).

There is also a formatting problem with the numbering in the same table (Table 10): it should read (i), (ii), (iii), i.e.:

(i) Strain hardening/softening
(ii) Thermal softening
(iii) Strain rate hardening, so we also propose to change it.

Consequently, the final version of Table 10 is:

2.2. Table 9 (page 451) should be modified to include the new values of the two parameters of the strain rate hardening equation (C

Table 8
Modified thermal softening term model parameters for the characterized Inconel 718.

	m	B
Proposed thermal Softening term, σ_T	-0.00663	832.27

Table 9
Modified strain rate hardening term model parameters for the characterized Inconel 718.

	C	D
Proposed Strain rate Hardening term, $\sigma_{\dot{\varepsilon}}$	0.00216	1.00391

Table 10
Formulation of the proposed coupled constitutive law.

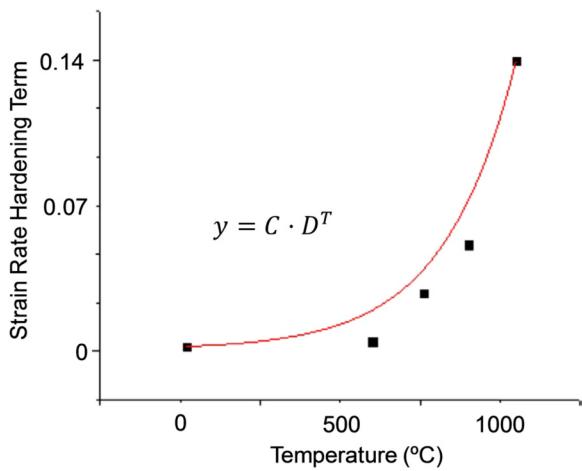| Proposed model	$\sigma = \sigma_{\varepsilon}(\varepsilon) \cdot \sigma_T(T) \cdot \sigma_{\dot{\varepsilon}}(\dot{\varepsilon}, T)$
(i) Strain hardening/ softening	$\sigma_{\varepsilon}(\varepsilon) = \sigma_s + (\sigma_0 - \sigma_s + A\varepsilon^n)\exp(-r\varepsilon)$
(ii) Thermal softening	$\sigma_T(T) = \frac{1}{1+e^{-m(T-B)}}$
(iii) Strain rate hardening	$\sigma_{\dot{\varepsilon}}(\dot{\varepsilon},T) = \left[1+C(T)\ln\left(\frac{\dot{\varepsilon}}{\dot{\varepsilon}_0}\right)\right] = \left[1+(C \cdot D^T)\ln\left(\frac{\dot{\varepsilon}}{\dot{\varepsilon}_0}\right)\right]$

$$y = C \cdot D^T$$

Fig. 20. Proposed strain rate hardening term for the characterized Inconel 718.

and *D*), and the *x* parameter should be removed. The *C* parameter has the value of 0.00216 and *D* 1.00391. Thus, the final version of the table is:

2.3. Fig. 20 (page 451) also needs modification due to the change of Eq. (6). The corrected figure is:

2.4. The text explaining the strain rate hardening term in section *4.3. Strain rate hardening* (page 452) need should be corrected to read as follows:

"As shown in Fig. 20, the Johnson-Cook strain-rate sensitivity parameter C increased exponentially with increasing temperature. Therefore, to consider the coupling between the temperature and the strain rate an exponential function is proposed (Figs. 20, 6). Strain rate sensitivity parameters C and D (Table 9) have been identified from all the temperature-strain rate testing configurations (Table 3)."

The authors would like to apologise for any inconvenience caused.
The authors also regret the omission of their Acknowledgement Statement, which should read as follows: