t37_filter_2 (TMPDmVJfUh-SLef6JTrKWYdfJzRqhMJWaFGt)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v10\_lattices : \iota \Rightarrow o$ be given. Let $l3\_lattices : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v18\_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v21\_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_filter\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_filter\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0) \wedge ((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)))) \Rightarrow ((r1\_filter\_2\ X0\ X1\ X2) \Leftrightarrow (X1 = X2)) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2) \wedge ((v18\_lattices\ X2\ X0) \wedge ((v21\_lattices\ X2\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow ((X2 = k7\_filter\_2\ X0\ X1) \Leftrightarrow ((r1\_tarski\ X1\ X2) \wedge (\forall X3.((\neg v1\_xboole\_0\ X3) \wedge ((v18\_lattices\ X3\ X0) \wedge ((v21\_lattices\ X3\ X0) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow ((r1\_tarski\ X1\ X3) \Rightarrow (r1\_tarski\ X2\ X3))))))) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \Rightarrow (v1\_xboole\_0\ X1)) \tag{4}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v18\_lattices\ X1\ X0) \wedge ((v21\_lattices\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow (r1\_filter\_2\ (u1\_struct\_0\ X0)\ (k7\_filter\_2\ X0\ X1)\ X1))$$