

## ecl\_ind\_wf<sup>11,40</sup>

$\forall X:\text{Type}\{j\}, ds:\text{fpf}(\text{Id}; x.\text{Type}\{i\}), da:\text{fpf}(\text{Knd}; k.\text{Type}\{i\}), x:\text{ecl}(ds; da),$   
 $base:(k:\text{Knd} \rightarrow (\text{decl-state}(ds) \rightarrow \text{ma-valtype}(da; k) \rightarrow \mathbb{B}) \rightarrow X), seq, and, or:(\text{ecl}(ds; da) \rightarrow \text{ecl}(ds;$   
 $da) \rightarrow X \rightarrow X \rightarrow X),$   
 $repeat:(\text{ecl}(ds; da) \rightarrow X \rightarrow X), act, throw:(\text{ecl}(ds; da) \rightarrow \mathbb{N} \rightarrow X \rightarrow X),$   
 $catch:(\text{ecl}(ds; da) \rightarrow (\mathbb{N} \text{ List}) \rightarrow X \rightarrow X).$   
ecl\_ind( $x;$   
     $k, test.base(k, test);$   
     $a, b, rec_1, rec_2.seq(a, b, rec_1, rec_2);$   
     $a, b, rec_1, rec_2.and(a, b, rec_1, rec_2);$   
     $a, b, rec_1, rec_2.or(a, b, rec_1, rec_2);$   
     $a, rec_1.repeat(a, rec_1);$   
     $a, n, rec_1.act(a, n, rec_1);$   
     $a, n, rec_1.throw(a, n, rec_1);$   
     $a, l, rec_1.catch(a, l, rec_1))$   
 $\in X$